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ON A TROOPSHIP TO INDIA

HENRY C. DAY, S.J., H.C.F., M.C.

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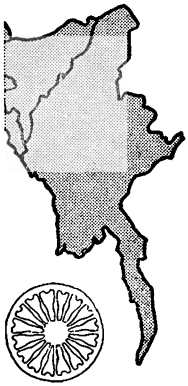

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ON A TROOPSHIP TO INDIA

by

HENRY C. DAY, S.J., H.C.F., M.C.
Order of the White Eagle of Serbia

Author of "A Cavalry Chaplain," "Macedonian Memories," etc.

I wish to thank the Excelsior Press of 73, Porchester Road, Woolston, Southampton for their kind permission to include in this book extracts from their "Troopship's Mileage Book and Nautical Diary."—H.C.D.

Maps and designs by Captain A. O. Morris, late R.G.A. (S.R.).

HEATH CRANTON LTD., 6 FLEET LANE, LONDON, E.C.4

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With a Preface by

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Illustrated by

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EXTRACTS FROM REVIEWS.

The Observer.—"Father Day never forgot that he belonged to an Order the founder of which had been a soldier; had he lived in the 17th century he would have been a man whom Breboeuf would have 'liked to go out tiger shooting with'—in those far-off Canadian times when 'not a river was entered, not a cape was turned but a Jesuit led the way.' Father Day gives a capital sketch of campaigning in Macedonia, and a final chapter deals with the Western front in 1928."

Manchester City News.—"This book is typical of the man—a priest of a wide outlook and vision, and with a vast human interest."

The Times.—"Those who took part in the Macedonian campaign will be glad to read this book; it will recall many half-forgotten scenes, both of sadness and of gaiety, and the gallant spirit of the writer which pervades the whole."

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Sunday Times.—"The tradition of the law—for Father Day is a son of the late Mr. Justice Day—and the sense of discipline in the famous Order he entered in 1884, enabled the padre to react to the severe demands of the campaign with an austere faith and hope . . . and to write a happy book on the war."

John O'London's Weekly.—"The author, a Jesuit, who served as a cavalry chaplain on several fronts during the war, went about with his eyes open, and his book is full of interest."

Manchester Evening News.—"This is a bright volume from the pen of a man who must have been a popular padre."

The Times Literary Supplement.—"Of his personal experiences he (Father Day) writes with zest and good humour; his spirits never seem to have flagged, and his modesty cannot obscure his devotion to the men; his one object seems to have been to share their fortunes, especially during an attack."

Sunday News.—"Father Day is a Roman Catholic priest and war padre who won the M.C., and his book, *Macedonian Memories,* comes as a counterblast to the recent spate of war books, for he is a man with views of his own about war—views not generally held in these days."

The News of the World.—"'In nine cases out of ten,' says Kipling, 'if you want a coherent account of what happens in war you had better ask the chaplain or the Roman Catholic priest of a battalion.' This is certainly true of Father Day, a Jesuit priest, who served in Gallipoli, Salonika, and France, and whose book *Macedonian Memories,* an entertaining volume of anecdote and incident, has just been published."

Daily Dispatch.—"Though not in fiction form, it holds one like the best fiction; and it has in it the interests of war on the land and in the air on several of the war fronts (including Flanders), sport, humour, and character drawing. It is, in short, a worthy sequel to his other book, *A Cavalry Chaplain.*"

Evening Standard.—"Father Day was a padre who accompanied the troops into action. . . . He happened to be an excellent observer, whether of military conditions, of the country and the people, or of battle incidents, and his well-written narrative ranks high in the literature of this corner of the war. His popularity with the Army can be well understood—he, indeed, was no 'passenger.'"

Army, Navy and Air Force Gazette.—"The volume shows all that saintliness, worldly wisdom, culture and acuteness of perception for which the Jesuit Fathers have been so deservedly famous throughout the ages. The reviewer has rarely read a book, even written by a soldier, which has given such an accurate description of terrain, ethnology, and of operations. Not the least valuable part of this book are Mr. Farrel's drawings. As the Chief of the Imperial General Staff says in his preface, the book is of a sturdy character."

The Mosquito.—"There is no sloppy sentimentality in these pages, but there is a wealth of very real and very true sentiment. Father Day is throughout racy, chatty, and generously tolerant."

Daily Mirror.—"Tells of hardships, but with a wholesome, manly note."

Copies of this book may be obtained from the Author, from any bookseller, or direct from the Publishers

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PART I

THE VOYAGE

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On a Troopship to India

The Blue Peter had been flying since early morning of Friday, March 5th, 1932 at the mast-head of a British Hired Transport in Southampton Dock, on which some details were already aboard, having arrived the evening before. The scheduled hour of leaving for Bombay was three o'clock in the afternoon; but long before groups of officials, friends, sightseers, and representatives of the Press and camera men were assembled on the quay to witness the final embarkation and departure of the troops, and to wish them God-speed on what for most of them was their first great adventure in life.

FINAL INSPECTION BEFORE SAILING.

By eleven o'clock the embarkation was complete; and at two-thirty the obligatory final inspection, usually made about half an hour before the time fixed for sailing, began. The object of this inspection is to ascertain whether all arrangements for berthing and stowing baggage are satisfactory, and incidentally to discover any possible stowaways. The board of inspectors consists of one or more officers detailed by the principal sea transport officer at the port, a military movement control officer, and a military medical officer not proceeding with the ship. The O.C. troops accompanied by the adjutant, the S.M.C., the ship's sergeant-major and a bugler meet the inspection board on arrival at the orderly-room, and go round the ship with them. While the inspection is proceeding all duty officers and N.C.O.'s are present with their units and drafts on the troop decks, the troops and families being seated at their respective tables, and 2nd class passengers in the saloon. Before the inspection, officers read and explain to their men the orders for emergency stations; and, while it is in progress, strict silence is maintained in the messes. Each day during the voyage a similar inspection takes place, usually at ten a.m., when all parts of the vessel appropriated to troops are

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visited by the master and O.C. troops in company with the senior medical officer, and the officer in charge of the troop decks. During this time cabins are vacated for the purpose of the inspection and cleaning, and passengers and officers not on duty should be in their appointed saloons while the troops are paraded outside on the decks. In connexion with this parade, an alarm signal is given on some days when life belts are fitted on and inspected.

SOUTHAMPTON WATER, THE SOLENT, AND THE CHANNEL.

Shortly before three, the scheduled hour for starting, the amateur and professional photographers on the quay began to get busy directing their cameras at the ship, and our crowd of young soldiers—1,700, drawn from almost every unit of the Army—were quick to respond to the idea, and arranged themselves in suitable formations to face the camera barrage. With the click of the cameras the tension on board ceased, and a general hurry-scurry followed to get points of vantage on the near or land side of the ship. Then cheers rang out; last messages were exchanged; farewells waved; and we were off!

Netley Hospital and Abbey a mile from the dock on the left or east bank of Southampton Water, with Calshot seaplane and flying-boat base opposite, and all sorts of shipping and aircraft round about—these and other objects of interest happily beguiled the first short hour of our run to the sea. Later, as we sailed west along the Solent, the Isle of Wight and the wooded Hampshire mainland afforded constantly changing views of typical English scenery. The two last views of the coast impressed me most, the red cliffs of Alum Bay warming the chill evening landscape, and the eerie white rocks and lighthouse of the Needles—solitary sentinels mounting majestic guard at the western gate of the lovely garden island of Britain.

Boat station and lifebelt drill occupied the best part of an hour before tea-time. After that we were free again till dinner at seven. By sunset we had entered the channel; and the next morning shortly after breakfast we passed Ushant Island and Lighthouse. The word Ushant is derived from the old French *ouessant* (west); and the promontory indicated is, in fact, the westernmost point of France. It marks the entrance to the English Channel on the north, and on the south the beginning of the Bay of Biscay.

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GENERAL ROUTINE AND DUTY APPOINTMENTS.

On the first morning after sailing, orders are published setting forth staff appointments and the general routine to be observed on board. Normally a permanent staff of warrant officers and N.C.O.'s to perform the duties of sergeant-major, quarter-master-sergeant, orderly room sergeant, and one troop deck sergeant for the trooping season, and an R.A.M.C. trooping party of 1 sergeant and 4 rank and file are appointed by the War Office on all transports. Also two Chaplains, one C. of E. the other R.C., are appointed by the War Office for the round voyage to India and back. The custom of appointing an R.C. Chaplain for the convenience of Portuguese passengers travelling to Goa, began in the early days of the East India Company and was continued under the British Government who have since added a C. of E. Chaplain. Both chaplains are paid by the India Office; but at present no chaplain is appointed to transports proceeding to destinations other than Karachi and Bombay in India, however long the voyage may be.

The command of the troops in ordinary circumstances on the single voyage is given by the authority making the appointment to the senior officer available for duty, holding the rank of colonel or under. The extent of the powers of the O.C. troops is set out in the Army Act, which prescribes that he will endeavour to meet the wishes of the master as regards sentries, hours of inspection, emergency stations, etc.; and co-operate with him as far as necessary in carrying out his duties as laid down in the *Instructions for Masters of Transports.*

Other officers nominated by the O.C. for the voyage are:—The Senior Medical Officer with one or more assistants from the R.A.M.C., an Education Officer to carry out as far as practicable educational training on board, a quarter-master to supervise the duties of the quarter-master sergeant, a messing officer who is responsible to the O.C. troops for the supervision of the meals for the troops, a baggage master who is immediately responsible for the safe storing and keeping of all baggage and kits and is present whenever the baggage rooms are opened.

The above list of regular staff appointments for the voyage is supplemented as far as necessary at the discretion of the O.C. troops, by the following:—A Provost sergeant with assistants; a number of assistant troop deck sergeants, one for each deck to work under the orders of the permanent troop deck sergeant; a librarian, and a number of N.C.O.'s. in charge of various military equipments.

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OFFICERS FOR DAILY DUTIES.

Officers for daily duties are likewise appointed according to requirements, and their names are published in daily orders. When there are more than two officers of the rank of Captain or above on board besides the O.C. troops, a field-officer of the day is appointed to whom the ordinary officer of the day and the military officers of the guard report all unusual occurrences to the O.C. troops. The officer of the guard remains on deck unless on duty elsewhere; and, whenever his men are called, he parades with them, and sees that the wishes of the ship's officer of the watch are carried out. He informs the master when soldiers in custody or lunatics, are on deck for exercise, and also when they have returned to the guard-room. He visits the sentries hourly during the day and night and sees that they are on the alert, that there is no smoking in prohibited places and no lights except those allowed. He also sees that an N.C.O. visits the sentries every half-hour during the night.

The officer of the day is referred to in all matters not requiring the intervention of the O.C. troops, and gives assistance to the officers of the ship. He attends when hammocks are taken down, and sees them stowed at 6 a.m. He sees that troop decks are swept after hammocks are down, and attends before and after each meal. He reports to the O.C. troops and accompanies him when he inspects the decks. After troop decks are cleaned, he causes police to be posted, with orders not to permit any troops, women or children to go below. These police are taken off at 11 a.m.; at which time the troops may go below again.

At such times it is a duty of the officer of the day to see that the men are present at the messes. He also is required to see that lights, except such as are necessary at night, are put out on the troop decks at 9.30 p.m. and reports accordingly to the O.C. troops.

If the number of officers entitled to passage will not permit of the officers available for daily duties having one day off to one day on duty, with a spare officer to meet casualties, the O.C. troops selects the necessary additional officers from those on board who are not entitled to passage at the public expense.

As a rule, only officers competent under the regulations to assume command will be taken for ordinary duty with the troops, but all officers entitled to passage, with the exception of officers not entitled to receive full pay during the whole of the voyage, are available for duty. A British

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officer serving with the local forces administered by the Air Ministry, proceeding on or returning from leave, or an officer on leave under Indian rules, will not, unless absolutely necessary, be detailed for duty, and the same rule applies to indulgence passengers.

Besides these military officers a ship's officer is appointed by the Company to act as troop officer. In this capacity he represents the master and acts in conjunction with the representatives of the O.C. troops, the adjutant and other military officers in all matters concerning the cleaning of troop decks, and the comfort and entertainment of troops and passengers. He is a sort of liaison officer between the military authorities and the master, to promote smooth working between them. Should difficulties of a practical sort arise, passengers are well advised to put them in the first instance before this officer.

DAILY ROUTINE, BELLS AND BUGLE CALLS.

A general idea of the daily routine of the troops on board may be gathered from the following summary of duties announced by ship's bells and bugle calls:—

Bells	Time	Bugle Calls	Meaning
4	a.m. 6.0	Reveille	Turn out and stow hammocks.
5	6.30	Ration	Orderlies draw bread and butter.
–	7.15	Breakfast	Draw rations and sit down to breakfast.
–	7.45	Fatigue	All cleaning fatigues parade. Troop decks cleared by police.
8	8.0	Guard fall in	Mount guard.
3	9.30	Four G's	Sweepers parade, sweep upper decks & empty the drip pans of the fresh water taps.
4	10.0	Assembly	Troops parade and inspection of troop decks.
5	10.30	Orderly Room	Orderly room. Bedding for airing to be brought on deck.
6	11.0	———	Issue of beer. Troops allowed below.
8	Noon	Dinner	Draw rations and sit down to dinner.

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Bells	Time	Bugle Calls	Meaning
2	p.m. 1.0	Four G's	Sweepers parade, sweep upper decks and empty the drip pans of the fresh water taps. Troop decks cleared by police and swept.
4	2.0	———	Troops allowed below.
2	5.0	Tea	Draw rations & sit down to tea.
3	5.30	Four G's	Sweepers parade, sweep upper decks and empty the drip pans of the fresh water taps. Troop decks cleared by police and swept.
4	6.0	Warning for parade	Draw hammocks.
1	6.30	———	Troops allowed below.
8	8.0	Supper	Draw supper rations.
2	9.0	Four G's	Sweepers parade, sweep upper decks & empty the drip pans of the fresh water taps.
3	9.30	Lights out Retire	Stop smoking. Everyone, except guard and police, to go below.
–	9.45	———	Rounds. Every man to be in bed.
6	11.0	———	Lights out in saloons.

Other Bugle Calls:—

Continue ... Carry on—that is, continue your occupation.
Retire ... ... Everyone off upper deck but the guard.
4 G's ... ... Sweepers.
4 G's & double Swabbers.
Charge ... Permission to smoke.
Lights out ... Stop smoking.

On Sundays special arrangements are made for divine service, and a percentage of Church of England troops, when weather permits, are paraded by 10.35. If there is no clergyman on board and the master does not undertake the duty, the O.C. troops arranges for the conduct of the service. Other services are voluntary and are arranged for through the orderly room by the chaplains. All services are notified in orders the previous day, and all possible facilities are given to the troops to attend.

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THE BAY OF BISCAY.

The distance across the Bays of Biscay from Cape Ushant to Finisterre is 187 miles; and the average time taken by transports to traverse it is approximately 36 hours. We left Southampton on Friday afternoon and by two o'clock in the afternoon of the following Sunday were off Cape Finisterre. To the relief and surprise of many who had expected a rough crossing, the passage was made without the least discomfort, the Bay having proved on this occasion as calm as a mill-pond. The same conditions prevailed on the return journey, when I asked a number of officers among the crew and some seasoned passengers whether this was a common experience with them, and they assured me that it was. The fact is that the Bay of Biscay, despite the abuse heaped on it, and the fear which it generally inspires, is far more often smooth than rough. May this remove unnecessary apprehension from novices to sea-life and help to give confidence.

By nine o'clock a.m. the next day, Monday the 8th, we had passed the Burlings and were off Cape Roca, and half an hour later saw us abreast of the Tagus estuary. Lisbon, the capital of Portugal, nine miles inland on the left or north bank of the river, is completely hidden from view. But the hills of Cintra fourteen miles to the north-west, and the ancient royal palace, where the Kings of Portugal formerly resided, can be seen on a clear day. By five o'clock in the evening we were well abreast of Capes St. Vincent and Sagres, which forms the S.W. corner of Portugal. The two rugged headlands (both tempting objects for the camera) are crowned by fine lighthouses, and below that of St. Vincent lie the ruins of an ancient abbey.

CAPE ST. VINCENT.

Cape St. Vincent is especially memorable in English history for the important naval victory named after it. On the morning of February 4th, 1797, Sir John Jervis, one of our most famous English Admirals, was cruising off the promontory with seventeen sail of the line to prevent a Spanish fleet of twenty-seven ships joining two French fleets, when a hundred sail would sweep proudly over the seas to invade the British Isles. Horatio Nelson was in command of one of the English ships—the *Captain*. At daybreak a hazy dawn suddenly lifted, disclosing the Spanish fleet not far away. Jervis signalled to prepare for action; and after three

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hours of fierce battle, the British admiral had captured four of the largest Spanish ships. The rest escaped to Cadiz. Thus, thanks to the vigilance and courage of our navy, this first attempt on the part of the Emperor Napoleon to invade England was successfully frustrated. Throughout the engagement Nelson showed himself the moving spirit.

TRAFALGAR.

After rounding the magnificent promontory, made up of Cape St. Vincent, and of Cape Sagres three miles to the east, we started to change our course, steering more or less south south-east outside the bays of Cadiz and Trafalgar to Gibraltar.

It was on this twenty mile stretch of sea off the coast of Spain that the battle of Trafalgár, commonly pronounced Trafálgar, was fought and won by the British fleet against the French and Spanish in 1805. On October 21st of that year, thirty-three French and Spanish ships, intent on another invasion of England, lay in a long line off the coast of Spain half-way between Cadiz and Gibraltar. The flagships of the two nations were in their midst, Villeneuve being in command of the whole. Some ten miles away the British fleet of twenty-seven ships were drawn up in two long columns. At the head of one was Admiral Collingwood, on the *Royal Sovereign;* at the head of the other was the admiral-in-command, Lord Nelson, on board the *Victory.* The two columns advanced a mile apart, and sailing at right angles to the enemy's line, cut it at two points. Before evening the last great sea fight, which decided England's supremacy at sea up to the present time, was won at a great cost. The price was the death of her greatest admiral in the hour of victory.

GIBRALTAR—GENERAL IMPRESSION.

On the morning of March 9th we entered the narrows and soon came into full view of the famous fortress of Gibraltar. The very shape of the "Rock"—like a recumbent lion guarding the western entrance to the Mediterranean, and symbolising the might and majesty of the British Empire with its far-flung Eastern Dominions—cannot fail to make even the most seasoned traveller experience some inward thrill of emotion.

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After passing the lighthouse at the beginning of Algeciras Bay, Europa Point at the foot of the promontory comes into view. This point, with signal stations, aerial masts, and naval and military barracks and hospitals, on the rising ground above it, forms a conspicuous and interesting landmark. Round the bend to the right are the Governor's summer residence, and a number of other residences occupied by official and better class inhabitants; while to the left is the harbour with the little straggling garrison town partly encircling it. Above Europa Point, and extending for a couple or more miles eastward along the south coast, the slopes of the hills appear covered with channelled concrete surfaces. These are "water-catchments" designed to collect and conduct the surface rain-water into tanks from which pipes supply the town and garrison with additional fresh water. At the foot of the last of the catchments to the east is a little picturesque fishing village.

Though this southern aspect of the "Rock" fails to show the sheer precipice of the Lion's Face overlooking Spain, and though the famous tunnels, trenches, glacis and bastions are visible only to the imagination, yet the sight of this historic and mighty fortress, towering in bold relief against the azure background of a cloudless sky, cannot fail to be immensely inspiring. In the gulleys and holes of those stubborn cliffs, less than three centuries ago, British soldiers, hardy men of our race, dug in and withstood for nearly four years the combined attacks by land and sea of the two strongest European nations of the time, France and Spain. Tortured with famine and disease, and constantly bombarded by shot and shell, the dwindling garrison neither flinched nor faltered, but true to their trust, clung to the "Rock," and were rewarded with victory in the end.

In the harbour one is struck by the number of hydroplane carriers and submarines. The carriers and their freight of seaplanes and flying boats take the place of aerodromes and aeroplanes, for which there is no accommodation on a rocky promontory only six miles in circumference and bounded by perpendicular rocks rising to a height of 1,396 feet above the sea. The presence of these air and submarine weapons of attack and defence is a reminder of the fact that Gibraltar, which once completely secured the Mediterranean against invaders, cannot strictly be said to do so any longer. The strong current and great depths of the Straits make mining and netting operations impossible, and necessitate the employment of a strong patrol. Despite this precaution in the Great War many ships were sunk particularly in the

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neighbourhood of Cape Spartel, though thanks to the wakeful and stern vigilance of the Navy, the Royal Garrison Artillery, and the Air Force, not a single ship was sunk in the bay immediately commanded by the great fortress, which still remains a strong first line of defence.

DESCRIPTION OF THE TOWN AND SETTLEMENT OF GIBRALTAR.

The little town of Gibraltar, with its ancient castle now used as a prison, lies immediately under the north-west side of the rock, which bristles with modern fortifications at least as impregnable as those which resisted the attacks delivered against it in the 18th and preceding centuries. The rock itself is the ancient Mount Calpi. This with Mount Abyla, now called Ceuta, on the African coast opposite, once constituted the dreaded Pillars of Hercules. Through those gates the mariners of antiquity, and even of later ages in the world's history, dared not venture. For beyond them lay the land of the gods, and a sea of darkness. At the northern end of the promontory a narrow sandy isthmus of neutral territory, scattered with mean hovels, and terminating at the frontier town of La Linea, connects the British possession with the mainland of Spain; and five miles farther on beyond the frontier is the quaint old-fashioned village of San Roque perched on a mound and gleaming white in the sunlight. Seven miles to the west along the coast is the town and seaside resort of Algeciras which gives its name to the bay, and which is memorable in connexion with the signing of the treaty concerning the settlement of Morocco in 1906 by the ex-German Kaiser. The hotel in which this treaty was signed, a long white building in front of a stretch of wood, can easily be seen by the naked eye across the bay, which, ringed by great hills and a southern azure sky, is one of the most beautiful sights in the world

There is a tradition that a tunnel under the sea formerly connected Gibraltar with Morocco; and this is supposed to account for the existence of the monkeys which the British found in the place when they conquered it in the 18th century. A further legend is to the effect that should the monkeys leave the place, the possession of Gibraltar will revert to Spain. However this may be, these animals are carefully preserved by the authorities, and fed with army rations.

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HISTORY OF GIBRALTAR.

The history of Gibraltar is ancient and interesting. From the earliest times it belonged in turn to the Phoenicians, Carthaginians, and Romans, and later to the Visigoths. In 710 the Visigoth kingdom in Spain, after an existence of three hundred years, was destroyed by internal strife, and the Moors from Africa for the second time in 711, under their leader Tarik, crossed the straits and captured Mount Calpi, where they built a castle the ruins of which yet remain. The mountain was then given the name of Gibel Tarik, the Mountain of Tarik, or Gibraltar. Thus began the Moorish conquest of Spain. In the fourteenth century Gibraltar was re-taken by the Spaniards from the Moors, who were eventually compelled to leave the country and re-cross the straits to Morocco. They set sail from the port of Tarifa, which is the most southern town of Spain, and exactly twelve miles to the west of Gibraltar. This town is said to take its name from Tarif, another chief, who as governor of the place, for the last time in the history of Morocco, levied duties on European goods. This fact is supposed to have given rise to our word "tariff." Others, however, derive the name of the town from the Arabic word for a small coin.

Between 1309, the date when the Spaniards regained Gibraltar from the Moors, and the year 1462 the fortress sustained eight sieges with varying fortune. The last of these sieges resulted in the capture of the city by the Spanish Infante Alonzo de Arcos who handed it over as a gift to the Duke of Medina Sidonia. The gift was shortly afterwards confirmed by King Ferdinand and Queen Isabella, who conferred on its new owner the title of Marquis of Gibraltar. At a later period of the same reign, however, the possession became annexed to the Crown. Subsequently, during the course of the War of the Spanish Succession, which began in 1701, a ninth siege of Gibraltar was conducted by the British Admiral, Sir George Rooke, supported by a land force of 1,800 English and Dutch soldiers under the command of the Prince of Hesse-Darmstadt. The fighting lasted only four days, and resulted in the capitulation of the garrison on July 24th, 1703. Thereupon, the Spaniards carrying with them whatever they could, hurriedly vacated the city, leaving in it only a dozen persons, and settled permanently in San Roque. Since then Gibraltar came to be populated by people of every nation, and especially by Genoese and Maltese, as may be gathered from the evidence of the various family names which still survive. However, before a year had passed the Spanish Government, with the aid of France,

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attempted a fresh siege, which notwithstanding the great preponderance of the attacking forces likewise failed in its object, and was soon raised. The next political event occurred the following year, when by a special decree of Queen Anne, Gibraltar was declared a free port. Then six years later, in 1713, as a result of the Treaty of Utrecht, it was definitely made a British possession, though two further sieges were set on foot by the Spaniards to regain it. The last siege, the fourteenth in the history of Gibraltar, began on July 14th, 1779, and continued for three years, seven months, and twelve days. At the close of the protracted fighting, in which the Spanish were supported by the French, peace terms were finally agreed upon, granting Spain the island of Minorca in place of Gibraltar in April, 1782. Gibraltar has been held in undisputed possession by the British Crown, and administered through special laws, under a military governor, an admiral and a colonial secretary. The native population of the place numbers about 30,000. Of these more than half are Catholics, the rest being fairly equally divided between Jews, Protestants and other Christian sects. There is a non-resident Anglican Bishop of Jerusalem, whose diocese covers more than half of Europe, and a resident Catholic Bishop holding the position of Vicar Apostolic since 1901. The Vicarists comprises a dozen churches and chapels and numerous schools and institutions.

From the harbour on a clear day a small hill to the north of La Linea with a monument on top of it can be seen. It was here that Queen Isabella, wife of Philip V., ordered a chair to be placed during the last Spanish siege at the beginning of the eighteenth century, declaring that she would remain seated on it till her troops were successful —an event fortunately never realised. However, to relieve her Spanish Majesty of the inconvenience of remaining in a sitting position for the remainder of her life, the British commander at Gibraltar at the end of the siege hoisted the Spanish flag for fifteen minutes.

THE SPANISH AND AFRICAN COAST LINES.

After leaving Gibraltar our course for some hours lay seven or eight miles off the south coast of Spain, and opened out interesting views of the Andalusian seaboard, including a good sight of Malaga, the capital of the maritime province of that name, on the left bank of the Guadalmedina at the

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base of the Axarqua hills. With the aid of field glasses one could easily pick out the Graeco-Roman towers of the Cathedral rising above the centre of the long line of buildings, and occasional chimney stacks, about a mile from the sea. Immediately above the shore, railway lines and trains passing over a succession of high arches, and linking up the numerous smaller towns and villages of the coast, were clearly visible to the naked eye. Next to Barcelona, the city of Malaga is the most important of the Spanish Mediterranean seaports. The more distant hills silhouetted against the sky for miles along the coast are the Sierra Nevada mountains, so named from their saw-like snow-capped appearance.

The African coast opposite, starting from Cape Spartel, which is the first point of the continent to be sighted on the way out, forms a continuous line of 1,000 miles, broken by only one considerable gulf or inlet between Ceuta and Oran, in a generally north-eastern direction to Cape Bon. The rugged heights, which are the chief feature of this part of the coast, are spurs or foothills of the Atlas system of mountains with its centre hundreds of miles inland to the south. At Cape Bon, the eastern limit of Tunis, the coast-line turns sharply to the south for a distance of 300 miles, and makes a wide gulf which effectively shuts the land from sight until the Nile Delta is reached more than 1,000 miles further south. The whole of this reach of the coast with its hinterland up to Egypt embraces four distinct countries, collectively known as the Barbary States—Morocco, Algeria, Tunis, and Libya.

The Country of Morocco, the whole of which, apart from a few small Spanish possessions, constitutes a sultanate under French protection, covers an area of nearly 220,000 square miles, and has a population estimated at 5 millions. The Spanish possessions comprise the fortress of Ceuta opposite Gibraltar, the Riff country and some other coast districts, as well as a few inland stations called "Presidies," the chief of which is Mellila. The port of Tangier on the Atlantic, with a surrounding zone of 140 square miles, is neutral territory.

Algeria to the east of Morocco, containing an area of nearly 184,500 miles, and a population of close on 6 millions, has formed since 1830 a province of France, and is to-day her most important possession.

Tunis, with its capital of the same name, and having the important naval and military base of Biserta on the north coast, like Morocco, is a French protectorate.

Lybia, or Tripoli is for the most part a desert country.

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Formerly under the domination of Turkey, it became Italian territory in 1912. The only fertile regions are those immediately bordering the coast.

The whole population of these North African countries, including a great many Europeans, mostly French inhabitants of Algiers, is roughly calculated to be about 15 millions. Of this number two-thirds at least are natives of various races, and are nearly all Mohammedans. The least populous portion of the entire region is Tripoli. The native inhabitants include the Kabyles and Berbers, who reside among the mountains, and are supposed to be descendants of the aborigines; the Moors, a mixed race dwelling in the cities; and Arabs, who occupy the open country, and live for the most part in tents.

* * * *

As we were now sailing on an easterly course in the same direction as the earth's movement round its axis towards the sun, the days began to shorten; and to meet the change of time the ship's clocks, which were correctly set at starting, had to be occasionally advanced by about half-an-hour. On the return voyage going west, the days on the contrary lengthened, and clocks and watches, instead of being advanced had to be retarded. These changes are made at midnight; and good notice is given of them earlier on in the evening, usually just before bed-time between nine and ten o'clock.

For a further account and explanation of the whole of this matter the reader is referred to Appendix A "Changes and Measurement of Time," and also to further discussions of problems of "Longitude and Time" in Appendix B.

A VIEW OF ALGIERS FROM THE SEA.

Following the African coast at a distance of some seven or eight miles, we arrived off Cape Caxine, the entrance to the Bay of Algiers, in the early afternoon of Wednesday, March 9th, the sixth day of the voyage. Had we continued on our course across the outside of the bay, we should have seen little of the picturesque city which encircles its shore and gives its name to the Bay. But, as it was, thanks to Captain Steadman, the popular master of the liner who always provided his passengers every opportunity to observe places and objects of interest, we sailed well inside the bight, and managed to get an excellent view of the prosperous and picturesque capital and its surroundings. To form some idea of the wonderful panorama presented, imagine a background of grey mountains; and in front terraces of white painted

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dwelling houses intercepted by occasional hotels and public buildings, descending in gentle declivities to the blue waters of the Mediterranean below. Aligning the sea, a broad esplanade, guarded by a massive wall of rock and artificial stone-work, stretches for miles to the entrance of the harbour at the eastern extremity of the town. Beyond the city area, and covering the foothills and valleys of the neighbourhood are vast acres of cultivated land and vineyards. Actually in the city, and crowning the summits of hills on either side of it, the most conspicuous objects are the fine Church of Nôtre Dame and the Obelisk War Memorial.

Algiers, I am told by visitors, in certain respects resembles Marseilles, and in others rivals some of the most attractive features of favourite watering places on the Riviera. From all accounts it should prove an ideal winter holiday and health resort.

PANTELLERIA.

At Cape Bon the coast makes a sharp detour south to Libya, and sight of land is lost until a succession of small islands come into view. The islands are Galita, 131 miles east of Cape Bongaroni, the Cani (dog-tooth) Rocks another 61 miles, and Pantelleria 95 miles further on. We passed close up to Pantelleria on our port side in the early afternoon of Thursday, March 10th. The island, which belongs to Italy, is volcanic in origin, and has an area of 45 square miles, mostly composed of high hills, the loftiest being Monte Grande, which rises 2,730 feet.

Pantelleria has of late years been used by the Italian Government as a political Penal Settlement, and has been only lightly fortified. But, according to reliable reports, both the island and its adjacent waters have recently been declared a fortified zone, and naval and military works of some magnitude have been set in progress. These reports have aroused much interest in unofficial naval circles, where the news is regarded as significant of a fresh and important development of Italy's strategic policy to control the Mediterranean highway from west to east. Since this island is situated 60 miles from Sicily and 44 from Libya, and therefore almost midway in the defile through which all east and west bound shipping must pass, its strategic importance as a possible naval and aircraft base cannot be exaggerated. In addition to the advantages of its position, the rugged coast line and steep cliffs of the island constitute a natural defence. The only disadvantage of the place as a naval base is that Pantelleria Bay, at the head of which stands the town that

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gives the island its name, is not accessible to ships of deep draught. This drawback, however, could be easily remedied by dredging. Moreover, just outside the bay there is good anchorage for the largest ships in 18 fathoms, or 108 feet, of water over sandy bottoms. And this anchorage could be fully protected by batteries of modern artillery.

Besides being athwart the Mediterranean shipping lane, Pantelleria is only 120 miles west of Malta, and 100 east of the great French naval base of Bizerta in Tunis.

Linosa, another Italian island with strategic possibilities, lies 65 miles to the S.E. of Pantelleria, and only 70 miles west of Malta. This island, which is also volcanic, has no harbour of any account; but it has good anchorage off the south and east coasts.

THE MALTESE ISLANDS.

By seven in the morning of the next day, Friday, March 11th, we had entered the Sicily - Malta channel, and were sailing close up by the north side of the Maltese Islands. These islands are situated at a distance of approximately 50 miles from Sicily and 179 from Libya, and form an almost unbroken coastline in a north-easterly direction for some 30 miles.

Gozo, ancient Gaulus, the westernmost of the little group of islands, and the second in importance, has an area of 20 square miles, and is surrounded by 25 miles of perpendicular cliffs. It is the fabled island of Ogygia where Calypso detained Ulysses, and is separated from Malta by a narrow channel only 2⅓ miles in width. Its modern name Gozo, pronounced Ghaudex by the native inhabitants, is an Arab corruption of the Latin word "Caudex," a tail. The origin of the name is traced to the situation of the island, which makes it appear as an appendix to Malta, to whose rulers it has always been subject. The soil of Gozo is very fertile; and the women and children, besides working with the men on the land, make the world famous Maltese lace. The principal town is Victoria, formerly called Rabato; but on the occasion of Queen Victoria's Jubilee in 1887, the name was changed in accordance with the wishes of the inhabitants.

Comino, the third of the group, with an area of barely 2 square miles, lies nearly midway between Gozo and Malta, and has a narrow passage on either side, through either of which vessels may pass by keeping in mid-channel.

Cominotto, and other small islets on the south side are close by Comino.

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Malta, distant from Sicily some 50 miles, and from Libya 179 miles, is by far the largest and most important of the whole group. This famous island "the watchtower of the Mediterranean," and the chief docking port of that sea, measures 20 miles in length and 12 in breadth, and has an area of 98 square miles. The population of the island, which is slightly smaller in area than the Isle of Wight, numbers considerably over 220,000 native inhabitants. Since 99 per cent. of these are Catholics, owing spiritual allegiance to Rome, Canon Law has long been adopted as the law of the land. It is also noteworthy that the clergy, who outnumber the members of all other professions, have always been the natural leaders of the people in religion as well as in politics. The administration at present is in the hands of a Governor and an Executive Council.

Valetta, the modern capital of Malta, stands on a promontory forming a sort of ridge about 110 feet high. It was founded in 1566 by the famous Grand Master of the Knights of St. John of Jerusalem, John de la Valette. Passing close by under the lee of the cliffs we could see something of the Grand Harbour with its fleets of ships riding at anchor or moving in and out of the port. We also got an excellent view of the stately churches, palaces, and ancient fortresses rising above the busy scene—mostly relics of the golden age of the island, when Malta in the reign of the Emperor Charles V was a foremost bulwark of Christendom against its Turkish Moslem invaders. Citta Vecchia, the ancient Phoenician capital five miles inland, is out of sight. Its principal objects of interest are the Cathedral and Episcopal Palace where the Bishop of Malta actually resides.

Musta, a tiny village in the very centre of the island, boasts of a Church with standing accommodation for 1,200, and the third largest dome in the world. The fact speaks volumes for the faith and piety of the people.

Of Malta and its capital, Lord Beaconsfield, the great Victorian statesman, has said: "Malta is certainly a most delightful station; its city, Valetta, equals in its noble architecture, even if it does not exceed, any capital in Europe. If that fair Valetta, with its streets of palaces, its picturesque forts and magnificent church, only crowned some green and azure island of the Ionian sea, Corfu for instance, I really think that the ideal of landscape would be reached."

In fact, Valetta with its palatial edifices, the cupolas, and belfries of its temples, and its imposing bastions, offers to the view a most magnificent and picturesque sight.

The Union Jack flying over the modern military fort and aerodrome on the south-east extremity of the island—

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a reminder of the present protectorate of the country under the "Pax Brittanica"—was the last we saw of Malta on our outward voyage.

HISTORY OF MALTA.

Though the dimensions of the Island are so small, its position on the direct route between Sicily and Africa, and the security and commodiousness of its harbours, have from time immemorial rendered it a coveted possession.

The first settlers of Malta were the Phoenicians who, having been driven from their original home in the land of Canaan, migrated north to the country of Phoenicia immediately below Asia Minor on the east coast of the Mediterranean. From here these adventurous people started trading expeditions to the westward islands and mainlands; and about the year B.C. 1480, the earliest period of European history, visited Malta where they founded a colony which quickly developed into a great emporium of commerce. Since then, Malta has come to be occupied successively by the powerful nations who in turn have aspired to command the Mediterranean basin.

Following on after the Phoenicians, the Greeks are supposed to have occupied the Island from about 700 B.C. till the coming of the Carthaginians in B.C. 480.

Under the government of Carthage Malta continued to grow in peace and prosperity; and soon reached so thriving a condition that it attracted the cupidity of the rival power of Rome, which eventually obtained permanent possession of the Island, and declared it a Roman Municipality in 215 B.C.

The Romans wisely respected the liberties of their new subjects, and treated the Maltese with marked kindness, allowing them to coin their own money, and to govern themselves and administer justice according to their native laws and customs. In fact they neglected nothing in order to conciliate the inhabitants, who for long remained strongly attached to the Carthaginians.

It was during the Roman rule, A.D. 58, that St. Paul was shipwrecked off the north-west coast of the Island, and the Maltese were converted to Christianity. The bay in which the shipwreck occurred, called St. Paul's Bay, is the second and last but one inlet which one passes sailing east from Valetta.

In 807 A.D. Malta was conquered by the Arabs who held possession of it for a period of 220 years, during which time the inhabitants were rarely allowed full freedom in the ex-

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ercise of their religion, and were occasionally submitted to positive persecutions. On the material side the Arabs strengthened the fortifications of Citta Vecchia, which they called "Mdina," and diminished its area so as to render it more capable of defence; they also erected a castle on the site of the present fort St. Angelo for the purpose of protecting the Grand Harbour. The principal and almost the only remaining monument, however, of the Arab domination is the Maltese language which, though Phoenician or Semitic in origin is said to have much in common with Arabic, and to conform to the rules and even to the anomalies of the Arabic grammar.

After the Norman conquest of Sicily and the expulsion of its Saracen invaders in the 11th century, the Arabs in Malta were the next to be conquered and eventually to be driven out of Europe by Count Roger, son of Tancred de Hauteville, who in return for his services had been proclaimed by the inhabitants hereditary Sovereign of the Maltese Islands.

Roger I (1090) was succeeded by William I (1154), and William I was succeeded by his son William II (1166). After the death of William II, the sovereignty reverted to King Tancred, son of Roger I, and during this reign the Islands became a country and a marquisate in 1189.

By the marriage of Constance, King Tancred's sister, to Henry VI, Emperor of Germany, Malta passed under German rule for 67 years (1199 - 1266).

In 1266 Malta was captured from the Germans by the French King, Charles of Anjou, who ruled over the Islands for 17 years from 1266 to 1283.

In 1283 a year after the massacre of the French in Sicily known as the "Sicilian Vespers," when the adherents of Don Pedro of Aragon annihilated Charles' garrison, Malta came under the dominion of the Aragonese, and was given over as a fief to successive feudal lords. The condition of the Maltese, who had fared badly enough under their German and French rulers, now became pitiable in the extreme on account of the tyranny of these private rulers. At length, oppressed beyond measure, and wearied of making useless complaints, the people openly revolted, and claimed back their country which they offered to redeem by the payment of 30,000 florins, or about £15,000, for which it had been mortgaged. The offer was accepted; and by a public act of King Alphonse, proclaimed on June 20th, 1428 at Mdina (or Notabile, in commemoration of the event) it was decreed that the Islands of Malta should henceforth never be separated from the Kingdom of Sicily, and that their inhabi-

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tants should enjoy the same privileges as those enjoyed by the inhabitants of Palermo, Messina, and Catarina.

After the death of Alphonse, the Kingdom of Sicily, with the Islands of Malta, passed into the hands, first of John, Alphonse's brother; then to Ferdinand and lastly to Charles V of Germany, the heir to all the Spanish dominions.

Charles V, at the request of Pope Clement VII, in 1530 ceded the Maltese islands to the military Order of the Knights of St. John of Jerusalem, who had been expelled from Rhodes in 1522 by the Turks.

Of the many very important events that took place in Malta under the 27 Grand Masters who ruled in succession after L'Isle Adams, the two most outstanding are the great and memorable siege of Malta by the Turks, the hereditary enemies of the Order, in 1565; and the capture of the Island by the French under Napoleon I in 1799.

On the morning of May 18th, 1565 a Turkish fleet, made up of 197 galleys, together with a number of transports laden with artillery, despatched from Constantinople by Soliman II, the "Magnificent," appeared off the Island. The enemy's troops under the command of General Mustapha, on whose skill and judgment the Sultan placed the utmost reliance, amounted to upwards of 30,000 men, of whom 4,500 were Janissaries. After some little cruising the Turks eventually disembarked, and directed their advance against the fort of St. Elmo, which the Turkish fleet began to batter on May 25th. In a few days a breach was effected, and the fort fell into the hands of the enemy after a loss on their part of 3,000 men. The Turks, now masters of St. Elmo, commenced a fresh attack upon Fort Senglea (point Isola) on the north-east side of the harbour, but finding the resistance too strong were compelled to desist for a time. On July 22nd they renewed the attack, but were again repulsed with great losses. The attack on Senglea was renewed again on August 2nd, and continued during four whole days. The Turks then gave way, and sounded a retreat. Further unsuccessful attacks were later made on Fort St. Michael and other strongholds; and the fighting continued until the Turks, seeing that they were completely defeated by the Maltese who were not half their number, finally desisted, and on the morning of September 13th raised the siege and set sail for home.

When the success of the Cross over the Crescent became known, the news was received with universal exultation by the Christian nations and sovereigns of Europe, several of whom, including Philip II of Spain and Pope Pius V, sent ambassadors to Malta to present gifts and congratulations

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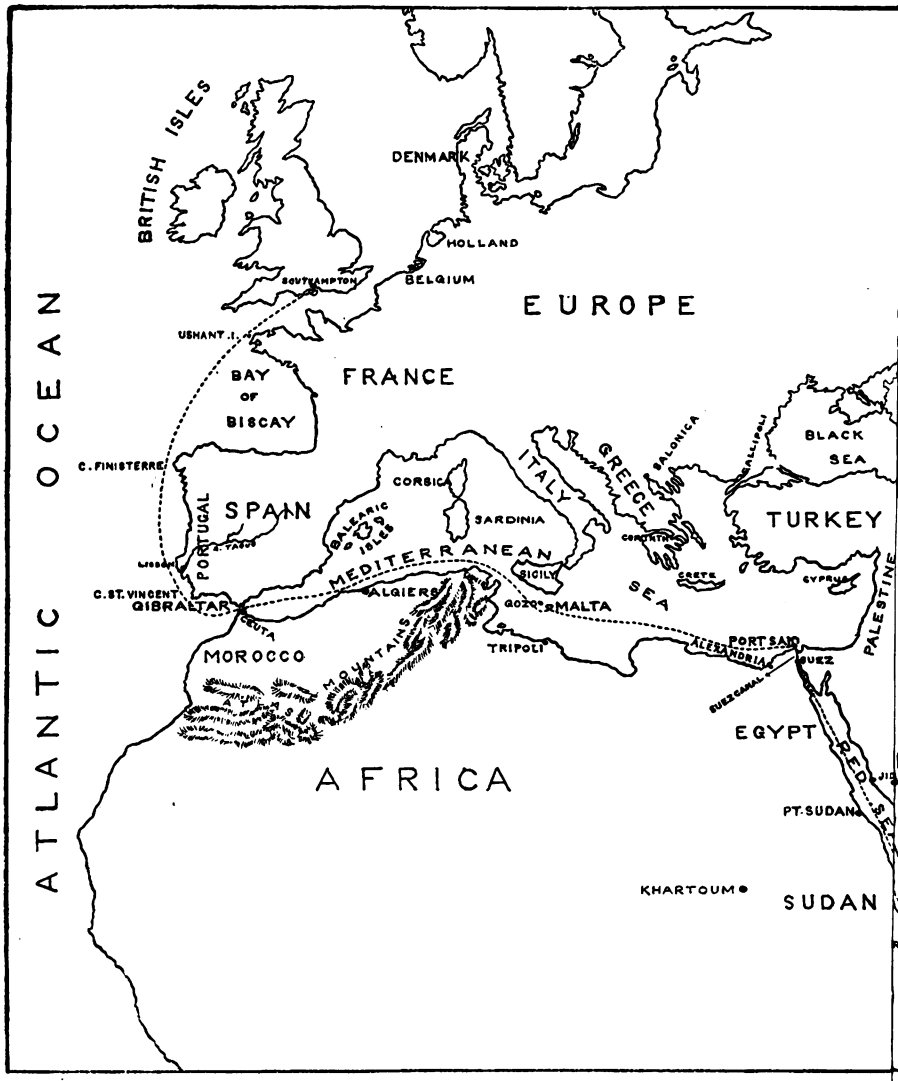

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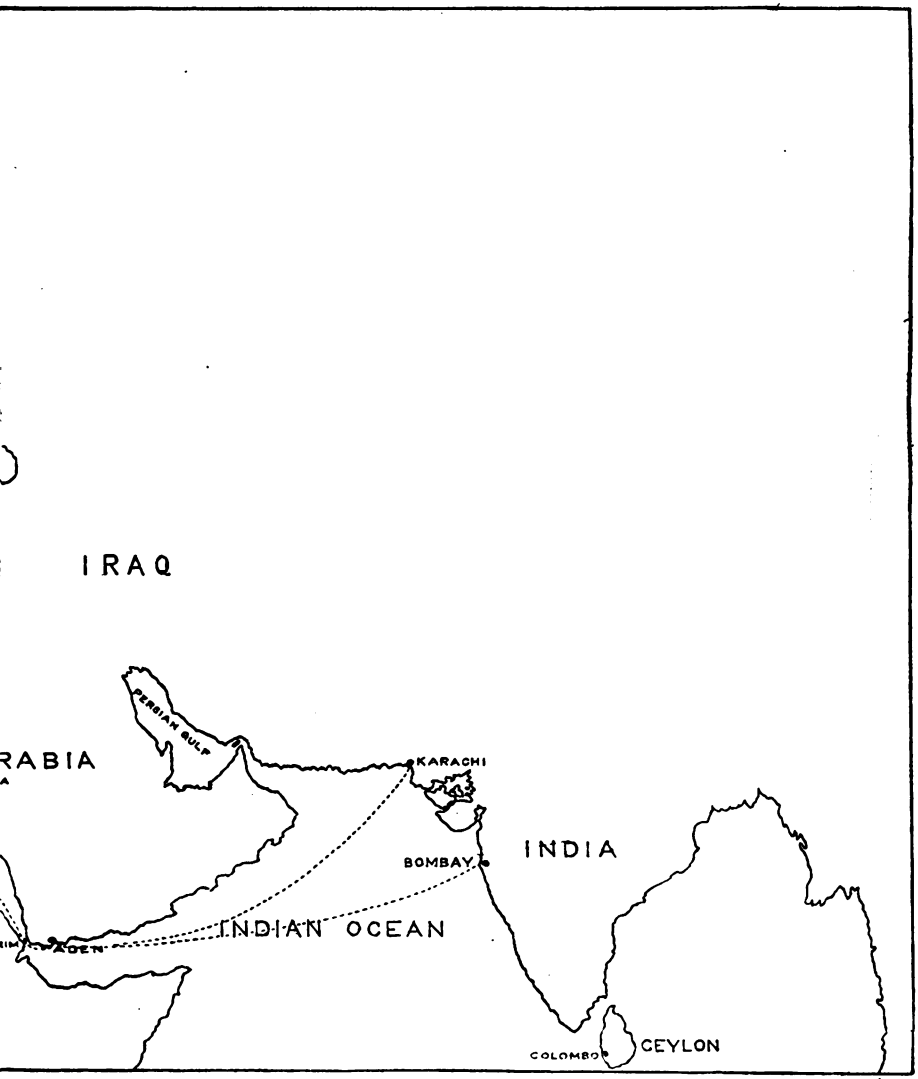

A. O. MORRIS. CAPT. LATE R.G.A (S.R.).

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to the Grand Master La Valette on a feat of chivalry similar to that of the Battle of Lepanto so soon to follow in 1571.

Immediately after the raising of the Turkish siege La Valette determined to erect a more strongly fortified town on Mount Sceberras; and on March 28th, 1566 laid the first stone of the new capital to which he gave his name, but which he never lived to see completed; dying from the effects of a sun-stroke while out hunting, on August 1st, 1568.

The next incident of importance in the history of this remarkable Island is its capture by the French in 1798. Napoleon, recognising the value of Malta to any power intending to obtain supremacy in the Mediterranean, resolved upon taking possession of it, though he had not the pretext of a grievance to allege against its masters. Accordingly, a French fleet, under Commodore Sidoux, appeared off the Island, and proceeded directly towards the Grand Harbour. Three days later it was joined by the main portion of the French expedition, the whole being under the command of General Bonaparte. On his arrival before Malta, Bonaparte despatched a message requesting that his whole fleet should be permitted to enter the harbour in order to water, and also that his troops should be allowed to land. Von Hompesch, the Grand Master, with the advice of his Council replied that it was contrary to the rules of his Order to permit the entry of more than four ships of war at a time, but that all possible assistance and refreshment should be bestowed and distributed. Thereupon the Emperor expressed in a further despatch to the Grand Master his determination to obtain by force what should have been freely granted him.

Bonaparte in anticipation of the coming attack, issued the most detailed orders to the various Generals who were to take part in it, and laid much stress upon the necessity of informing the inhabitants that the French had no desire to change either their customs or religion. The attack was made on June 10th, when the French effected landings at eleven different points of Malta and Gozo; and on June 10th a capitulation was signed by Von Hompesch on board Napoleon's flagship the *Orient* by which Malta was surrendered to Bonaparte. Arrangements were then immediately made to convert the Island into a Gallic colony. To this end orders were issued obliging Knights under 60 years of age to quit the country within three days; and decreeing that arms and escutcheons should be defaced, and that the rich properties belonging to the Churches and Palaces and Auberges should be handed over to the conquerors.

On June 21st Bonaparte left Malta, and carrying with him the Maltese Regiment, the Grand Master's guards, and

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many Maltese sailors, set sail for Egypt to conquer the East; leaving behind him General Vanbois with some companies of infantry and artillery to garrison Valetta. On hearing, however, of the destruction of his fleet by Lord Nelson at the Battle of the Nile on August 1st in Aboukir Bay off Alexandria, the French Emperor was compelled to change his plans and to return to Franch forthwith.

About this time, on September 2nd, 1798, the Maltese, exasperated beyond all endurance by French tyranny and insults, rose in arms against their oppressors, and under the leadership of Canon Caruana, afterwards Bishop of Malta, formed the blockade of Valetta. Later on, at the request of Lord Nelson, to whom messages were sent by the insurgents, the Portuguese sent a fleet to blockade the harbour and to hold the enemy until the arrival of Nelson himself. Subsequently Naples also sided with the Maltese against the French. Two years of fierce and heroic fighting, during which 20,000 Maltese are said to have perished, followed. At length, on September 2nd, 1800, the anniversary of the defeat of the Turks, the French surrendered Valetta to the allied English, Maltese, and Neapolitan forces. The Maltese, who were now free to arrange for their own government, chose to place themselves under Great Britain, rather than under the former administration of the Knights, who had latterly failed to rule them with justice and clemency. Accordingly, the cession of the Island of Malta and its dependencies to His Britannic Majesty was proclaimed on February 19th, 1801.

The proclamation which was issued by Major General Pijot was to the effect that:—" the representatives of the Maltese people having ceded the Island of Malta and its dependencies to Great Britain, His Britannic Majesty took the Maltese under his protection and granted them the full enjoyment of their religion, property, and liberties." This cession of the Island to Great Britain was subsequently confirmed by the 7th Article of the Treaty of Paris in 1814. The event is recorded in the inscription over the Main Guard in the Palace Square, by order of Sir Thomas Maitland:—" Magnae et Invictae Britanniae Europae Vov et Melitensium Amor Has Insulas Confirmat." The translation of the inscription runs:—" The voice of Europe and the love of the Maltese confirm these Islands to the Great and Invincible Britain."

From the date of this settlement in 1801, the Maltese have continued to live in peace and prosperity under the British dominion.

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A CLOSER VIEW OF VALETTA.

On three other occasions, once during the Great War and twice on voyages to India with the troops, I have had the good fortune of landing at Valetta and getting a closer view of the city and its immediate neighbourhood. The general impression of the place is at once English, Italian, and Oriental. While the soldiers and sailors, who are to be met everywhere, recall England, the houses with their curiously latticed balconies, and the small boats plying for hire in the harbours, called "Dghaisas" (pronounced "diesirs") and closely resembling Venetian gondolas, are distinctly reminiscent of Italy. On the other hand the women with their black umbrella-like "faldettas" head-dresses awake suggestions of the East.

The houses in Malta are well built, and the streets are generally rectangular. The principal shopping thoroughfare is the Strada Reale, which runs from north to south. Amongst the objects and places most worth while visiting in and outside the city are: St. John's Co-Cathedral, so called because of its being equal in status to the original Cathedral in the former capital Citta Vecchia; the Museum, opposite the Post Office, containing relics of the ancient occupations of the islands; the modern Theatre Royal or Opera House near Porta Reale; the Governor's Palace—the ancient residence of the Grand Masters, covering an area of 316 by 266 feet, and having two principal entrances, each opening into a courtyard in Strada Reale facing St. George's Square; the Main Valetta Guard in the same square in front of the Palace, and containing officers' rooms decorated with many excellent and some gruesome drawings by officers; or the garrison libraries; the Borsa di Commercio or the Malta Exchange, a fine building situated in the Strada Reale only a few yards from the Governor's Palace; the Market at the back of the Palace; the Auberges or hostels of the various "Languages" or different nationalities represented by the Knights; the Upper and Lower Barraccas; Forts St. Elmo, St. Angelo, and Ricasoli; the Royal Naval Hospital; the Chapel of Bones; Castellania; Porta Reale; Floriana and Vittoriosa. *St. John's Church*, easily recognised by the two bell towers which flank the front of the Church was, until Napoleon carried away its treasures in 1798, amongst the richest ecclesiastical buildings in Europe. The facade is surmounted by a Maltese Cross, the symbol of the Knights, and beneath it is a bronze figure of Our Lord, the work of Algardi of Bologna. Over the portico is a balcony on which newly elected Grand Masters used to make their first appearance. The pavement

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of the sacred edifice is formed of some 400 richly inlaid sepulchral marble slabs commemorating many famous and illustrious members of the Order. The vault is divided into seven zones or compartments with paintings by the famous artist Mattia Preti, "il Calabrese," relating to the nativity, life and beheading of St. John the Baptist. The piece of sculpture in the choir representing the baptism of Christ by St. John was worked at Rome at the expense of the Grand Master Carafa from the design of Melchiorsa Gafa, a celebrated Maltese sculptor. The High Altar formed of lapislazuli and other costly stones, and decorated with bronze ornaments, was designed by Bernini. On either side of the Altar stand two thrones with velvet covered canopies, one for the Bishop, and the other bearing the escutcheon of Great Britain for the Sovereign of England. The chapel on the southern side of the choir is surrounded by costly silver rails, which escaped the rapacity of the French owing to the disguise of a coating of paint, which led them to believe that the rails were of common metal. The coating of paint still remains.

The Auberge de Castille, the finest of seven more or less stately buildings erected in different parts of Valetta for the various "languages" of the Order, occupies a delightful situation at the upper end of the town, commanding a very extensive view. It is now used as Military Headquarters, and it is easily recognisable by the signal mast set on the highest portion of the roof. Formerly it was assigned for the residence of the Grand Chancellor and other Knights of Castille and Portugal, the most powerful of all the languages.

The Upper Barracca. A few yards from the Auberge de Castille is the Upper Barracca, a place of public resort built in 1661. It was formerly covered in by a roof, but in 1775, some conspirators having used it as an assembly place, the Grand Master at the time ordered the removal of the roof as a precaution against further meetings of this sort. From the projecting gallery a view of the harbour with its impregnable forts and seven docks up the creeks on either side can be enjoyed. It is said to be one of the most magnificent sights in the world. Below is the Saluting Battery, and the Lascaris Barracks for the Royal Malta Artillery. The monument erected in this garden is to the memory of Sir Thomas Maillard, Governor of Malta from 1813 to 1834.

The Lower Barracca. This is another similar place of recreation, just above the harbour at the lower end of Valetta. It is resorted to by the public especially in the summer evenings for the sake of the cooling breeze sweeping over the waters of the harbour. Here the monument in the

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grounds is a life size statue of Sir Alexander Bell, one of the Commissioners of Malta.

Fort St. Elmo. This fort is named from the Chapel dedicated to St. Elmo, the patron Saint of seamen, within its walls. It was built in 1488 at the extremity of the peninsula, above the entrances to the Grand and Quarantine or Marsamuscetto Harbours as a precaution against their invasion. Marsamuscetto Harbour is formed by a large creek of the sea a little to the west of the Grand Harbour; a portion of this creek reaching up to Sliema, a residential part of the city, is reserved for yachts and small craft. Fort St. Elmo was rebuilt and enlarged in 1553 and was the first point attacked by the Turks in the memorable siege of 1565. Above this fort is a lighthouse, erected in 1766, with a white light visible fifteen miles away.

Fort St. Angelo, situated almost in the centre of the Grand Harbour, was originally built by the Arabs in 870, and was restored and greatly enlarged by the Knights. St. Angelo is now occupied by the Admiral Superintendent of the Dockyard as his flagship, and is styled H.M.S. *Egmont.* It is the chief bulwark of the town.

Fort Ricasoli, a large fort on the opposite side of the breakwater to Fort St. Elmo, was founded in the year 1670 by Cavalier Giana Francesco Ricasoli, who contributed the sum of £3,000 towards defraying the expenses of the building and endowed it with £300 per annum. Together with Fort St. Elmo it defends the entrance to the Grand Harbour.

The Royal Naval Hospital just above Ricasoli on Salvatore Hill was erected by order of King George V. Immediately below it on the south-west side lies the Naval Cemetery.

The Chapel of Bones, not far from St. Elmo, is a singular piece of ghastly ingenuity, arranged about the year 1852 by the Rev. G. Sacco, who was chaplain at the time of the Hospital formerly on the site. The chapel is constructed largely out of the bleached remains of those interred in the Hospital Cemetery. It is no longer open to the public, but permission to visit it may be obtained from the Superintendent of Public Works.

The Castellania was built in 1758 by the Grand Master Pinto for the Civil and Criminal Courts. The "Castellano" who presided over them had his residence there. At the corner of the building is a large iron hook and pillory, where a certain class of criminals were tied, exposed and ridiculed. The Castellania is now used for offices of the Public Health Department.

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Porta Reale, the Royal Gate at the upper end of Strada Reale was built by the Knights after the attack of the Turks, and rebuilt in 1853. The beautiful gate as it now stands is adorned by a bust of Pope Pius V who contributed largely to the building of Valetta, and two statues of past Grand Masters, the one of l'Isle Adam, the first ruler of Malta, and the other of La Valette, the hero of the great siege of 1565 and the founder of the town.

Just outside Porta Reale is the suburb of *Floriana*, called after the engineer P. P. Floriani, who designed the fortifications by which it is defended. Situated within the precincts of the Floriana wall are a public garden, a Convent of Capuchin Friars, and a beautiful temple of St. Pallius, the first Bishop of Malta, mentioned in the Acts of the Apostles. The Church faces the granaries, the "Casa della Madonna di Mansesa," a place of religious retreat, both for the laity and the clergy, erected in 1740. Floriana also contains the Central Civil Hospital.

Vittoriosa is the most remarkable of the three cities which form the Collonera district to the east of the Grand Harbour. The district is named after the Grand Master Nicholas Collonera, who built the vast bulwark which extends for about eight miles from Vittoriosa round the whole of Conspicua and joins the bastion of Senglea. The street pavements of this old town cover the bones of hundreds who were killed and buried during the historic siege of the Turks. The principal objects of interest in it are San Lorenzo Church, the Column of Victory, the Clock Tower, the Inquisitor's Palace, and the Old Bishop's Palace, used as the Episcopal residence till 1662, and now serving as a Government Boys' School.

The Church of San Lorenzo dates from 1090, and was the Conventional Church of the Knights up to 1517, when they took up their residence in the new city of Valetta. The present sacred edifice was rebuilt in 1697, and contains many precious historic relics of former ages.

On Monday morning, March 14th, just three days after leaving Malta, we began to sight land in the distance; and as we sailed slowly along the shallow grey channel off the coast—caused by sand from the Nile, and representing a striking contrast to the bright blue of the Mediterranean further out—broken lines of houses, clusters of trees, and a minaret here and there appeared out of the sea, and gave the idea of clusters of islands on the horizon. There were no islands, of course, and the illusion was due to the low-lying condition of the mainland, here little above the level of the sea, and at a distance barely distinguishable from it.

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The miniature archipelago, in fact, was the small town of Damietta at the base of the delta of land formed by the division of the Nile at Cairo into two branches reaching the sea at Rosetta to the west, and at this other little seaport to the east.

The first sight of the land of the Pharaohs suggests an excuse for a short digression on its geography, history, and government.

EGYPT.

Egypt proper is the lower portion of the Nile Valley, extending from the Mediterranean southwards to 22 degrees North latitude. South of this line, the Anglo-Egyptian Sudan, including Kordofan and Darfur, extends as far as the northern borders of Uganda and the Belgian Congo. This vast region is now under the joint administrative control of Great Britain and Egypt. To regulate the rise of the Nile, which annually inundates and fertilises the Delta and the valley of Upper Egypt, an immense dam has been built at Assuan with a barrage and lock at Assiut, and a barrage at Zifta.

The country to the east of Port Said, extending across the Canal and along the Gulf of Suez is the Sinai Peninsula, the scene of the forty years' wanderings of the Israelites in the time of Moses. This peninsula, which is a wilderness of rocks and lofty mountains culminating in Mount Sinai, 8,600 feet in height, though geographically belonging to Arabia, is administratively a part of Egypt. The whole country has a population of well over thirteen million inhabitants of whom the vast majority are Arabs. There are, however, half a million descendants of the ancient Egyptians, or Copts; and besides these there are several thousands of Turks, Armenians, Syrians, and Jews, and Franks and Europeans. The prevailing religion of the country is Mohammedan. The Copts, however, are Christians.

Since the Moslem conquest of the country A.D. 369, Egypt continued almost uninterruptedly under Turkish rule until, having been proclaimed a British Protectorate in 1914, it was granted independence as a separate kingdom in 1922. Certain treaty rights with Great Britain, ensuring the safety of the Canal and recently enlarged in favour of the national aspirations of the people, continue in force.

The two principal towns of Lower Egypt are Cairo on the right bank of the Nile, and Alexandria, the seaport of

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Cairo, about a hundred miles to the south-west of it on the coast. Both cities are in direct communication with one another and with Port Said, by railway; and a good motor road has recently been opened between Cairo and Suez. Rosetta and Damietta are seaports of much smaller importance. Port Said, named after the Viceroy of Egypt who founded it at the time of the construction of the Suez Canal, is fast growing in importance, and is already almost equal in population to Cairo. The town is situated only a few miles east of Damietta on the narrow strip of land between Lake Menzaleh and the sea. The distance of Port Said from Cairo is 148 miles, or a little less than the distance of Suez from Cairo, which is exactly 156½ miles.

PORT SAID.

After sailing slowly up between the breakwaters (the western breakwater is some three miles in length) we entered the inner harbour of Port Said and moored at our appointed berth opposite the Canal Company's offices, a little below Navy House, formerly a Dutch commercial centre. The Company's offices, surmounted by a large and two smaller domes, forms an imposing block at the end of the Rue de Commerce, the principal shopping street and main artery of the town, running parallel with the coast for the best part of a mile. A refreshing plot of trees and gardens is to be seen on the right bank surrounding the waterworks.

A new town is springing up on the eastern side of the harbour, known as Port Fuad, and here are situated the Canal Company's workshops. On the same side, further south, are extensive salt works, where the mineral is obtained by the process of evaporation. The Government quarantine station and the coal and petroleum depots are also on the eastern side.

Between lunch and dinner most of the passengers went ashore and spent the time, while the troops were engaged on a route march and bathing, in exploring the town and making purchases. The best bargains were cameras of the latest patterns and all free of duty. The chief obstacles to the enjoyment of the visit were the importunities of the natives and the molestation of guides, hawkers and vendors of useless curiosities, and undesirable postcards, etc. The best way I have found of lessening this nuisance is by studied politeness. But this requires constant effort in the way of

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restraint, and one experiences a sense of relief on returning to the ship.

Architecturally, socially, and morally, Port Said leaves much to be desired. A few public offices, hotels, churches, and some dozen fair-sized shops in the neighbourhood of the principal street are the only buildings which can make any claim to pretension. The best ornament is the statue of the French engineer, Count Ferdinand de Lesseps, who constructed the Canal, which was opened during the administration of Said Pasha in 1869. This fine statue is erected on the breakwater and dominates the entrance to the harbour. The shops and dwelling-houses in the native quarter—mostly of painted wood and plaster—present the appearance of a collection of gaudy, dilapidated shanties. The population, which, notwithstanding the general trade depression, has greatly increased in recent years, threatens to rival Cairo in numbers. It consists of a medley of races and nations, and is largely composed of the most degraded types of the Levant. Drawn to the port by the passing traffic, this riff-raff make it their business to prey on the passengers and crews of ships, and to cater for the worst vices of East and West. Hence the deservedly notorious reputation of the town for general depravity.

Port Said owes its importance to the fact of its being a coaling station half-way between Europe and India. Coaling in this port at night is, according to all accounts, a weird and interesting spectacle. As soon as the signals of a ship arriving in the harbour are displayed, black barges with flaming crescents at their mast-heads, emerge mysteriously out of the darkness and bear down swiftly on the signalling vessel. The barges are steam-propelled rafts, piled high with coal, and crowded with dusky natives crouching beside it. These strange figures, in their long scanty garments revealing bony arms and legs, with their heads wrapped in rags for turbans, look more like female witches than men. The moment the barges are made fast, and the planks run up the ship's side, the work and noise of conveying the coal to the bunkers begin.

The noise of the clatter of shovels in the cavern below, combined with the tramping of feet and monotonous chanting of the basket carriers (familiar to those who have visited the East, and resembling nothing so much as a raucous funeral dirge) is steadily maintained as the work goes on. At length, after three or four hours, the noise and glare die down; and suddenly as they came, the barges disappear into the gloom. As our coaling was done by day, it failed to provide any spectacular interest.

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THE SUEZ CANAL.

The Canal from Port Said to Suez is eighty-six and a half miles in length; and as steamers are limited to six or seven knots, the passage, allowing for stops, which are frequent on account of the traffic, takes from fifteen to twenty hours. On either side of the harbour are huge mooring buoys, black on the Asiatic side, and red on the African side. A similar system of buoys marks the channel of the Canal through Lake Timsah. The journey through the Canal, whether by day or night, is memorable and noteworthy. We started in the evening after dark and were guided, in accordance with regulation, by an electric projector searchlight. This light, fixed to the prow of the ship, sometimes creates a strange illusion by rendering the water of the Canal pitch-black and its banks an intense white. The return journey was by day.

The Canal, as it traverses the desert from sea to sea, is confined to a narrow line, except where it widens into the broader channels of Lake Timsah and the greater and lesser Bitter Lakes. From the entrance on to Kantara, the channel follows a straight course due south for twenty-five miles. On the east lies the Arabian Desert, and on the west is the vast stretch of Lake Menzaleh, dotted with native fishing boats, and little sandy islands. El Kantara, which in Arabic signifies "the bridge," was in ancient times the crossing-place for caravans passing between Egypt and Syria. To-day it is little more than a junction for the Palestine Railway, which for half the distance after leaving Port Said runs by the side of the Canal, turning west for Cairo and east for Palestine at Kantara junction. The bridge was built and destroyed in the Great War and has not since been replaced, so that passengers on arriving here, if they wish to continue their journey, have to leave their train and be ferried across to join another on the other side of the Canal. On the African side and running parallel for forty-eight miles with the Canal is the Egyptian State Railway's line from Port Said to Ismailia, and also the Abassieh Fresh Water Canal. This was made during the construction of the Suez Canal to convey drinking and washing water from the Nile at Cairo to the workers. It runs by the side of the railway between it and the Canal. South of Kantara the Canal makes a bend eastward, and then back again slightly towards the west. Kantara was strongly garrisoned during the war, and I frequently visited the troops there belonging to the 2nd Mounted Division of Yeomanry, to which I was attached at the time. It was from here that Moses is re-

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ported to have started to cross the Red Sea. At the bend of the Canal referred to south of Kantara the land rises to its highest point in the isthmus, about 52 feet above the level of the sea. About forty-one miles from Port Said it emerges from these heights and continues through Lake Timsah by a buoyed channel. Lake Timsah, as the name suggests ("timsah" is the Arabic word for crocodile), used to be famous for crocodiles. On the bank, overlooking the entrance to the lake, is the Canal Company's Hospital, and a rest-house attached to it. The latter was originally a chalet owned by Viceroy Ismail.

Abraham and his sons, and later on, the Holy Family, in all probability spent a few days at Kantara on their way to Egypt. The surrounding country is the land of Goshen where the Israelites settled in the days of Jacob, whose son Joseph then ruled over Egypt. It is full of Biblical memories.

On the north-west shore of Lake Timsah lies the town of Ismailia, the half-way station of the Canal. The town is well planned and beautifully kept by the Canal Company, but as it is hidden away by dense masses of trees, little of it can be seen from the ship apart from a few marine offices of the Company, and a number of bathing cabins along the shore. Moasca Camp, where I stayed under canvas for some weeks in the war, is a couple of miles farther south, and equally hidden. By the new Anglo-Egyptian Treaty it is to be the concentration camp for all British forces in Egypt in the future. Near by is the newly erected mooring mast for airships, which is plainly visible from the lake.

On the right, as the ship re-enters the Canal channel proper, is a sand-mound known as Gebel-Miriam, which Arab tradition links up with the story of Moses' sister. A little farther on, on the same side, a small square building, crowned with a dome, marks the venerated tomb of Sheik Enedek, a rich Mohammedan, who after making a pilgrimage to Mecca divided his possessions amongst the poor of his tribe, and came to live here in seclusion and prayer.

On Gebel-Miriam a monument has been erected by the Allies to soldiers killed on the East and West fronts. It consists of two parallel pylons divided by a slit looking east and west.

A few kilos beyond Sheik Enedek's tomb the right bank of the Canal rises to the heights of Serapeum, where in ancient days stood a temple dedicated to the god Osiris-Apis or Ser-Apis, the sun and bull god.

On the Arabian side of the Canal between Toussoum and the native village of Serapeum is the site where an attack was made by the Turks during the Great War in 1915 to

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capture this strategic position of the isthmus. Fortunately for us their brave attempt met with defeat, and the enemy were forced to retreat within a few days of reaching the place. On the same side of the Canal for a considerable distance relics of barbed wire can still be seen.

The Canal now continues along its normal channel until it reaches the entrance of the Bitter Lakes at Deversoir. The word Deversoir means a dam, and it was by the opening of the dam here that the Mediterranean was allowed to flow into the basins of the greater and lesser Bitter Lakes. The large expanse of these lakes, which in ancient days formed an arm of the Red Sea, at the time of the making of the Canal was nothing more than a huge dry depression encrusted with salt deposits. The rapid evaporation of the salt and care for the Canal banks caused the process of filling the lakes to take about seven months. Although called lakes, these vast stretches of water which extend for over twelve miles from Deversoir to Kabret, and another five miles from Kabret to the end of the lesser Bitter Lake at Geneffe, are more like an inland sea. At Suez the channel is prolonged into the bay, and at the end of a huge embankment on the Africa side, facing the sea stands Port Tewfik, the final station of the Canal. A railway line and road connect Tewfik with Suez, and at the back is a small basin for commerce and repairs constructed by the Egyptian Government and known as Port Ibrahim. At Port Tewfik there is a fine Obelisk memorial, sided by two tigers, to the honour of the Indian Army employed on the Canal in the war.

REGULATIONS AND WORKING OF THE CANAL.

By the Company's Regulations, confirmed by the International Convention of 1888, the Canal is open, subject to payment of dues not exceeding 10 francs per ton and per passenger, to all nationalities equally in peace and war. It is further laid down that vessels of over 300 tons must carry a Company's pilot, but that the sole responsibility for the ship's passage lies with the captain, the pilot acting only in an advisory capacity. The maximum draughts for vessels is 32 feet, and they must be supplied with mooring boats and a projector. All ships go through at the owner's risk; and they are not allowed to pass each other under way, except in Lake Timsah and the larger of the Bitter Lakes. Ships carrying mails are given preference; and oil tankers

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and steamers with dangerous cargoes have special regulations, and are allowed to proceed only in day-time. The delay over mooring to let other vessels pass is often considerable, and further delay is sometimes occasioned by fogs and sandstorms. The fogs mostly occur during the change of seasons, when the day temperatures are still moderate, and the nights and early mornings chilly. The spring is the season of the Khamsin or hot desert wind, and when this is strong it blows up the sand and dust, and so thickens and darkens the atmosphere that it is impossible to see for more than a few yards ahead. Ships caught in a bad sandstorm in the Canal have to tie up till it dies down.

The general administration of the Canal is conducted by a President and Board of Directors who meet monthly at the headquarters of the Company in Paris. The Board consists of thirty-one directors, twenty of whom are French, ten British, and one is Dutch. One of the British representatives also has a seat on the Committee of Management, which meets every Monday.

The executive work is done in Egypt, and is under the care of the Superior Agent, who has his headquarters in Cairo. The Traffic and Works Department is stationed at Ismailia, with branches at Port Said and Suez. Navigation is controlled by the Transit Department, which records and regulates the movements of ships through the Canal by means of the Company's private telegraphs and telephones at the Central offices and at Port Said and Suez. At every ten kilometres, moreover, along the Canal proper there is a Company's station with a high mast erected upon which are hoisted instruction signals to passing vessels. A notice board is also placed at the stations to give such information as cannot be communicated clearly by signals.

HISTORY.

That rulers and conquerors of Egypt from very early times had the idea of making a canal to join the interior of the country to the Red Sea, and that some of them succeeded, is proved by the witness of ancient history and by actual structural remains of the sort between Cairo, the Bitter Lakes, and Suez. History tells us that as far back as the 13th century B.C. a canal from the Nile to the Red Sea, begun in the time of Rameses II, and later on discontinued in obedience to the dictates of an oracle, was subsequently completed somewhere about the year 487 B.C. by King Darius I of Persia. After long years of disuse this ancient

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waterway of the Pharaohs was restored and re-opened by the Roman Emperor Trojan in A.D. 100. It was restored again in A.D. 600. Nine hundred years later, in A.D. 1500, the powerful Republic of Venice formed a plan to pierce the isthmus of Suez by a new canal, which they failed to carry out. Next, the Emperor Napoleon Bonaparte, when he invaded Egypt in 1789, entertained the same idea, which was adopted by a later French Government with the result that the present canal was inaugurated in 1869. The negotiations began in 1854, when Mohammed Said, the Turkish Viceroy of Egypt, in the name of the Sultan granted a concession to the French engineer, Ferdinand de Lesseps, to form a company for making a canal which should be open to all the nations who were to have equal rights. Four years later, on November 15th, 1858, the subscription list was opened, when more than half the capital was subscribed by France, the English Parliament at the time being averse to the project. The remaining portion was almost wholly taken by Saïd Pasha; and it was the re-purchase of these shares from Ismail Pasha, the next Viceroy under whom Egypt became bankrupt, at the cost of four million pounds, by Benjamin Disraeli, the Prime Minister of Queen Victoria about the year 1876, that gave Britain a controlling interest in the Canal. The total capital first subscribed for the enterprise amounted to £8,000,000; and an additional £5,000,000 has since been expended in widening and improving the Canal.

In the time of the Great War Indian troops, aided by contingents from Australia and New Zealand, and English Territorials and Yeomanry, were largely employed for the defence of the Canal, which was actually attacked by the Turks under German inspiration and guidance once in 1915.

Having decided that their best crossing place was between Toussoum and Serapeum the Turks eventually arrived there and launched an attack in the early morning of February 3rd, 1915. Three pontoons succeeded in getting over to the African bank of the Canal, but their occupants were quickly routed by the Indians who were waiting for them. Many other pontoons were sunk, and, during the fighting which went on all the day, an important part was played by British and French cruisers stationed in Lake Timsah and at different points along the Canal. After a quiet night, further skirmishes were resumed on the Asian bank near Toussoum on the morning of February 4th. The following day the Turks commenced to retreat, and gradually their main army, followed by small scattered detachments, disappeared in the direction from which it had come. So ended this first attack on the Suez Canal.

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In view of this history, the question of maintaining the integrity and efficiency of the Suez Canal in the interest of commerce and civilisation is seen to be a matter of the first importance. It should also be noted that this question is sure to become more important and politically prominent in the near future. For in 1968 the original concession made by the Sultan of Turkey to Monsieur de Lesseps for ninety-nine years dating from the opening of the Canal in 1867 ends; and the Canal and its property would then revert to the Egyptian Government on payment of due compensation, unless some other agreement is reached.

THE GULF OF SUEZ AND THE SINAI PENINSULA.

At midday on March 15th we passed out of the Canal; and after a short delay in the Bay of Suez to drop the pilot, started on a S.S.E. course down the Gulf and through the Red Sea. Both the gulf and the bay occupying the north-west corner of the gulf take their name from the town at its head. By means of the Canal the Gulf of Suez connects the Red Sea with the Mediterranean on the north much in the way that the Gulf of Aden and the Strait of Bab-el-Mandeb ("strait of weeping") connect the same sea on the south with the Indian Ocean, here more correctly or strictly called the Arabian Sea.

Thus the Gulf of Suez is in fact a part of the Red Sea, of which it forms the north-west branch extending with an average width of thirty-two miles for 190 miles from lat. 28 degrees N., where the main channel bifurcates, to lat. 30 degrees N. The other smaller branch is the Gulf of Akabar, which flows directly north, the two together forming the Peninsula of Sinai, which is geographically the north-east corner of Arabia.

During the brief passage of less than two days through this narrow channel, one gets a clear view of the mountainous lands for miles back on either side. The highest hills are grouped half-way on the Asia side; and towering above them, sixty miles inland, is supposed to be Mount Sinai. But whether at the distance any of us could rightly distinguish the hill of Moses would appear to be doubtful.

After passing the Shadwan Islands 173 miles south-east of Suez, and the Brother Islands another eighty-two miles farther on, and well in the main channel of the Red Sea, no more land is visible until the ship approaches the narrows by Bab-el-Mandeb, except a succession of rocks and small islands which appear at irregular intervals.

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THE RED SEA.

The Red Sea or Arabian Gulf—after the Mediterranean the largest of inland seas—is the main N.N.W. branch of the Indian Ocean, extending for over 1,200 miles from the Gulf of Aden lat. 12 degrees 40 minutes to Suez 30 degrees N. Besides being the second largest the Red Sea is also one of the "saltiest" of all inland seas, as shown by the following table of salt percentages based on the Atlantic percentage as a standard: Atlantic Ocean 2.5; Mediterranean 3.7; Red Sea 4.0. The Dead Sea (Palestine) and Salt Lake (U.S.A.), enclosed areas, both contain nearly 20 per cent. of salt.

The countries bordering the Red Sea on the east are the peninulas of Arabia and Sinai in Asia; and on the west the Italian colony of Eritrea, with Abyssinia, Nubia or the Anglo-Egyptian Sudan, and Egypt in Africa. The chief harbours on the African coast are Massawa, Port Sudan, Kosseir and Suez; and on the Arabian coast Mokha, Hodeida, and Jidda, the port of Mecca.

Port Sudan is one of the places of call for transports on the way to India, and on a couple of occasions I found plenty of objects of interest to fill up the few hours allowed on land. Immediately across the harbour is a large hotel with an open-air swimming bath. The hotel is managed by the Sudan Railway which was opened in 1899 to connect Wady Halfa with Khartoum, at the junctions of the Blue and White Nile, 430 miles west of the coast. It has since been greatly extended so that it now covers over 2,000 miles. The inhabitants of the neighbourhood for the most part belong to the negro race, but a considerable portion of Soudanese are of mixed descent, being partly of Arab or Berber origin. The native element is seen to best advantage in the neighbourhood of the market-place where all manner of weird types of men and women and camels commonly assemble. The most interesting of the natives are the "Fuzzi-Wuzzies." These stalwart warriors from the hills are magnificent specimens of men. But when they settle in the town, they cut their hair, and soon deteriorate, becoming very ordinary persons like you and me.

Another attraction is the coral reef. Pleasure boats with glass-bottomed boxes through which beautiful coral gardens can be seen in the shallow waters leave the quay near the ship at stated hours. The sight reveals a new world of fantastic shapes and colours—coral growing in the form of bushes, and miniature ferns and gauze-like sheets. Many fish of brilliant and varied hues, and countless varieties of submarine life, mingle in this living garden of the sea.

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The first of the islands to be passed as the ship sails down the middle of the Red Sea is the Daedalus Reef named after H.M.S. *Daedalus*, which was wrecked on it some seventy years ago, with the loss of all hands. The reef is the remains of an ancient coral island, which must once have been an attal near to the coast, but is now a stretch of rock in mid-ocean extending a foot or two under the water for more than a mile except for a small pedestal slightly above the sea level on which the present lighthouse stands. The beacon was built shortly after the disaster by the P. & O. Company, and even after this precaution other ships have foundered on the ledge. The sight of the surge breaking over the coral bank is a striking spectacle not to be missed. Within two and a half days' sailing from this point we sighted the Zebayer Islands, commonly known, I think, as the "Twelve Apostle Islands," and two hours later we were passing the Zukkur (sugar loaf) and the Hannish Islands. At 10 a.m. on March 19th we were off Perim, an island with a few hundred inhabitants in the strait of Bab-el Mandeb. The island is 1½ miles from the coast of Arabia and ninety-six milest west of Aden, which we passed at 4 o'clock the same afternoon. Perim became a British possession in 1857 and is under the administration of Aden which has recently been declared a Crown Colony.

The position of Perim, lat. 12.38 N. and long. 43.21 E., is the southernmost point on the way to Bombay, which is 18.57 N. 72.51 E. Hence our course for the rest of the voyage, along the Gulf of Aden and across the Arabian Sea, was north-east to east instead of south-east to east.

ARABIA.

The Arabian peninsula, forming the S.W. extremity of Asia and conveniently called Arabia, which we are approaching and will now leave behind us, deserves a parting description.

In extent the countries included under the name Arabia are computed to exceed an area of 1¼ million square miles, which is about twenty times greater than that of England and Wales. The length of the country from north to south is 1,500 miles; and its greatest width about 1,250 miles. Its confines on the north are Mesopotamia and Transjordania, on the west the Red Sea and Palestine, on the south the Gulf of Aden and the Arabian Sea, and on the east the Gulf of Oman and the Persian Gulf.

The whole of this immense region is described as consisting of a vast system of table-lands, buttressed by ranges of heights running parallel to the coast, and leaving a narrow

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strip of low land at their base. The highest edge of these plateaus is on the side of the Red Sea, where the land rises to 8,000 feet. Thence it forms a gradual declivity to the east; but rises again towards the south-east, where the highlands of Oman culminate in Jebel Akdur, 9,900 feet.

The most barren portion of the country is the gravelly and rocky region to the north—the "Arabia Petraea" of ancient geography. The central portion, formerly called "Arabia Deserta," and now known as the Nejd, is crossed by hills which yield streams and thus give rise to fertile districts with settled populations. This central portion, notwithstanding its ancient name, is decidedly less barren than the northern country; while the land of Yemen to the south-west, which was designated "Arabia Felix," or Arabia the Happy by the ancients, having the advantage of perennial springs in addition to numerous streams, is by far the most fertile of all. In this region the vine, fig, peach, almond, and many other fruit trees, including the date-palm, which is to be found in every oasis of Arabia, flourish abundantly. Here too the coffee shrub is largely cultivated.

The low-lying, hot and unhealthy strip of country between the mountains and the Red Sea is called the Tehama.

The population of Arabia, estimated at about four million inhabitants, is divided between dwellers in towns, and dwellers in the wilderness. The latter live in tents, and move their encampments from place to place. These wandering inhabitants of the desert are called Bedouins, and their wealth consists of flocks and herds—sheep, camels, goats, and horses.

Most of the people of Arabia profess the Mohammedan religion, and vast numbers of Mohammedans annually resort to the sacred cities of Mecca and Medina—the former the birth-place, and the latter the burial place, of Mohammed (A.D. 571 - 632).

The industry in Arabia is pastoral and commercial; and the traffic through the country carried on by means of "caravans," or companies of merchants, guides, soldiers and pilgrims, who associate together for mutual protection in crossing the wilderness, is considerable. The caravan crossing the desert with its train of camels is one of the most striking and interesting pictures of oriental life. At present the Beirut-Damascus Railway is being extended to Mecca and has already reached Medina.

The government common in Arabia is still patriarchal, the people being divided into tribes under heads, or "Sheikhs," who fill in relation to the persons of whom the tribe consists, the place of the father of the family.

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The districts of central Arabia are controlled by the Emirs of Jebel Shammar and Nejd and Hasa. Oman is subject to the Sultan of Muscat. In the western regions the kingdom of El Hejas has been established, with an area of 170,000 square miles and a population of about 900,000. Medina and Mecca are in El Hejas, and on the adjoining coast is Jidda. Also extending south along the coast of the Red Sea is the Principate of Asir; while occupying the extreme south-west corner of the peninsula is the Imanate of Yemen, the "Garden of Arabia." Sana, the capital of Yemen, is in the heart of the coffee district, of which Mokha was formerly the chief importing town. Of late, however, the importance of Mokha has decreased as a result of the shifting of the bulk of the coffee trade to Hodeida, the seaport further north.

Each of the divisions described above has a population of approximately a million inhabitants.

ADEN.

Pursuing our course along the south coast of Arabia, we passed close under the promontory of Aden at about 6 o'clock in the evening of March 19th. We did not stop to call; but on other occasions I have landed and learned a little about it. The British settlement founded in 1839, besides being one of the principal strategical positions on the way to India, provides a busy trading centre for the neighbouring countries on both sides of the Red Sea. The British possession, which quite recently has been raised to the status of a colony, covers an area of fifteen miles in circumference; and like Gibraltar, is a peninsula, being connected on the north side with the mainland by a narrow sandy isthmus. The native town lies inland to the north of the harbour at Steamer Point, on the eastern side of the peninsula. It is built in the crater of an extinct volcano, and is surrounded by lofty cinder-like rocks. The highest peak of the promontory, called Chum-Chum, rises to over 1,000 feet above the sea.

The climate of Aden, though intensely humid, provides a yearly average rainfall of only two and a half inches. In former days the district possessed a magnificent system of cisterns cut in the rock for collecting this rainfall. Later the cisterns were allowed to fall into disrepair, but recently they have been restored, and are well worth a visit. A part of the present water supply is derived from these cisterns, and the rest from wells sunk in the solid rock to a depth

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of 200 feet. Not so long ago the main supply used to be obtained by distilling the sea water, and stacks of salt looking like a camp of white tents can be seen along the coast. At that time all water had to be paid for, and was bought and sold in the streets under official sanction. There is a good swimming-pool just round the coast to the right of Steamer Point below the lighthouse.

The present population of the peninsula, apart from the small British garrison mostly of the R.A.F., and a few officials and their families, number about 40,000 inhabitants, and consists of Arabs, Somalis, Jews, and Indians. The Catholic community of 1,500 souls is organised as an independent Vicariate Apostolic, under the care of the Capuchins. There is a C. of E. as well as an R.C. Church at Steamer Point.

THE ARABIAN SEA OR INDIAN OCEAN.

The distance from Aden to Bombay is 1,645 miles, and it took us between four and five days to traverse it. After leaving Aden the mainland of Arabia is soon lost sight of, and on the first day in the Gulf the only land I recall seeing consisted of two small volcanic islands, called the Jebus Islands (?), within a few miles of each other. One of the two may have been Jebel Tier. At all events the island of that name is an extinct volcano clearly showing a wide crater last in eruption in 1834. The lighthouse on the island is called "Widow's Tears" because it was founded by the widow of a British captain whose ship was wrecked on the rock on which the lighthouse stands.

From now onward to the end of the voyage the chief objects of interest consisted of passing vessels, occasional aircraft, and flying, and other fish. The last included dolphins, porpoises, sharks, and whales.

The most interesting and strangest looking of the ships we ran across was a big wooden sailing vessel, which seemed suddenly to appear under our port bow on the first day after losing sight of the land. She was short and heavy in build, with sides which bulged in the middle and narrowed towards the deck, which was high above the water especially at the stern and poop. In many respects she was not unlike a sixteenth century warship; but instead of having heavy wooden masts and spars with square sails, she was lightly equipped with two slender bamboo poles gently raked back, and carrying light yellow ochre fore and aft sails. She passed so near under us that we could look down on her

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deck and see everything. It was crowded with Arabs, who wore long beards and robes of many colours. As they gracefully waved their arms and salaamed solemnly in reply to the lusty cheers of our Tommies, they looked extremely picturesque and dignified. I never managed to get any precise information about this curious craft, but probably she was an Arabian dhow of sorts carrying on legitimate trade between the coasts of Asia and Africa. She might, of course, have been a slave dealer; and in appearance could have passed for a Chinese pirate junk or for a Moslem privateer of the Middle Ages.

At dawn of day on Good Friday, March 25th, low-lying land loomed in the distance. This was the sub-continent of India; and soon the great island city of Bombay with its splendid harbour behind Colaba, its railway stations, churches, universities, domes, towers, red and white houses, parks, hospitals, hotels, and public buildings of all sorts, came into full view.

Kiemara, the port of Karachi, three or four hundred miles north is an alternative place of disembarkation for troops proceeding to India, and especially for the N.W. frontier. Karachi is the nearest point of India to Europe.

Transports also travel to the Far East and the West Indies; and the routes and distances are indicated in the Mileage Table, Appendix C.

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PART II

APPENDICES

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APPENDIX A.

CHANGES AND MEASUREMENTS OF TIME.

The problems involved in the changes and measurements of time, or the shortening and lengthening of the day on journeys east and west, has its root in the physical time order, or the succession of events which we are all conscious of expressing, and from which we derive the ideas or conceptions of time and speed. Time, according to Aristotle, is the measurement of movement, and speed is the rapidity or rate at which anything moves from one point to another. The solar time which we are accustomed to use, and which has been arranged for our convenience by astronomers, is derived from the earth's daily rotation from west to east around its axis, and by the complete revolution which it makes in a year of approximately 365 days round the sun in the same general direction. The unit of measurement of solar time is accordingly the day, which is conveniently divided into twenty-four hours, the hours being sub-divided into sixty minutes, and the minutes into the same number of seconds. This time is artificially recorded on the dials of clocks and watches by means of hands kept in motion by springs or weights acting on wheels. The even movement of the hands round the dial, corresponding generally with the rotation of the earth, registers like that cosmic movement a succession of practically equal time events and periods.

From the rotation of the earth in the course of the day in the direction of the sun, its speed or rate of movement can be readily inferred. The circumference of the globe is 24,086 miles, and the earth accomplishes this distance once in every twenty-four hours. Therefore its rate of travelling is 1,036 or roughly 1,000 miles an hour. The average speed of a transport is 12 knots, or about 14 miles an hour. Going east therefore in the same direction as the earth's rotation, its combined rate of movement towards the position of the sun in 1,036 plus 14 equals 1,050 miles an hour; and going west against the earth's movement it is 1,036 minus 28 or twice 14, which reduces the speed to 1,008. The number of hours, therefore, taken to reach the same position varies proportionately in the two cases, and consequently causes the day to be shorter or longer.

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APPENDIX B.

THE EARTH AS A GLOBE. ITS SHAPE AND SIZE.

Our earth is commonly represented as a globe. More correctly it is an oblate spheroid, i.e., a sphere somewhat flattened at the poles (the extremities of the axis on which it revolves) and having a slight bulge round the equator. The equator is a line drawn on all globes and complete maps exactly half way at all points between the North and South Poles and dividing the world into the northern and southern hemispheres. It is supposed to represent an imaginary circle on the earth's surface. Parallel to the equator other lines, usually shown at intervals of 10 degrees, are known as parallels of latitude. At right angles to the equator and the parallels, similar lines in the form of great circles, at intervals of 15 or 20 degrees, are drawn through the North and South Poles. These north to south circles are known as circles of longitude, and like the east to west circles of the equator and the parallels of latitude, are divided into 360 approximately equal parts or degrees. The half circles connecting the poles are called meridians of longitude, and the 180 degrees which compose them are measured for convenience from the meridian which passes through the Royal Observatory at Greenwich in England. This standard meridian is known as the Prime or First Meridian or more commonly as the Meridian of Greenwich. Measuring east and west from this starting point at zero a common meridian is reached at 180 degrees, which together with the Prime Meridian forms a great circle dividing the earth into the eastern and western hemispheres.

The principal dimensions of the earth are these: Polar Diameter 7,900 miles; mean length of Equatorial Diameter 7,926 miles; Mean Diameter 7,913; Circumference 24,860 miles; Volume 259,880,000,000 cubic miles; and Surface Area 195,647,240 square miles.

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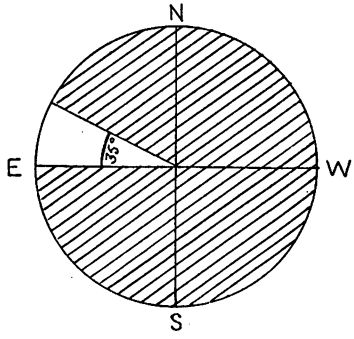
DISTANCES IN LATITUDE AND LONGITUDE.

For purposes of geography, distances and relative positions of places on the earth, which could of course be given in miles are always as a matter of fact expressed in degrees of circles of latitude and longitude, the degrees of latitude being measured by the angle sub-tended at the centre of the earth by the arc joining the place to the equator, as shown in the accompanying diagram. The latitude of the equator is 0 degrees, and of the North and South Poles 90 degrees N., and 90 degrees S. respectively.



A degree, in geometry or trigometry, is the 360th part of a circle: every complete circle being considered as divided into 360 degrees, which are indicated by a small ° near the top of the figure. For exact measurement a degree is divided into 60 minutes ′, and a minute into 60 seconds ″. Thus 45°, 12′, 20″ is 45 degrees, 12 minutes, and 20 seconds.

VARIATIONS IN THE LENGTHS OF DEGREES OF LATITUDE AND LONGITUDE.

Because of the flattening of the earth at the poles and the bulging round the equator, its circumference at the equator is not the same as round a great circle passing through the poles; this unevenness accounts for the variations observed in the lengths of degrees of latitude and longitude, the length of a degree of latitude at the poles being slightly greater than at the equator, and the length of a degree of latitude at the equator being slightly smaller than that of a degree of longitude. Latitude is measured along meridians of longitude in the same way as longitude is measured along parallels of latitude. Hence the length of a degree of longitude at the equator is 1/360th of the circumference of the earth measured round the equator, or 69.17 miles. As parallels of latitude get smaller towards the poles, so the length of a degree of longitude grows smaller as latitude increases until at the poles, where all meridians converge, it ceases to have any length at all.

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The following table gives the lengths in miles of degrees of latitude and longitude measured respectively on a meridian and on a parallel at every 10 degrees of latitude, the lengths of 1 degree on a meridian being given for arcs extending half a degree both north and south of the latitude named.

LENGTHS OF DEGREES OF LATITUDE AND LONGITUDE.

Latitude.	Length of a Degree on a Meridian. Miles.	Length of a Degree on a Parallel. Miles.
0 degrees	68.70	69.17
10 „	68.73	68.13
20 „	68.79	65.03
30 „	68.88	59.96
40 „	68.99	53.06
50 „	69.12	44.55
60 „	69.23	34.67
70 „	69.32	23.73
80 „	69.39	12.05
90 „	69.41	0.00

A geographical miles corresponds to the mean length of 1 minute of latitude, which is 1.151 miles or 6,077 feet. The nautical mile, derived from the meridianal circumference of the earth, is equal to one minute of the same, and is, therefore, identical with the geographical mile. Since this, however, varies with the latitude, the Admiralty nautical mile of 6,080 feet, which corresponds roughly to latitude 48 degrees, is generally adopted in practice.

FIXING POSITION OF LATITUDE AND LONGITUDE.

From what has already been said it will be seen that the circles of latitude and longitude form a network of north to south and east to west lines, which can be transferred to globes and maps, and used for determining the exact positions of places on the earth's surface. Given the latitude of a place its position north or south of the equator is known: and if the location on the parallel can be ascertained the complete geographical position may be gauged. The position of the place on the parallel is its longitude, and the

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method for finding this is provided by measuring east or west of one of the half circles (preferably the Meridian of Greenwich) connecting the North and South Poles. Each place has its latitude and longitude marked on the map, and thus all geographical positions are exactly shown. Looking for instance at the map of Central Europe one finds that Cracow, the capital of Poland, lies almost at the intersection of the 50 degrees North line of latitude and the 20 degrees East line of longitude. Its position, therefore, may be given as approximately: Lat. 50 degrees N., Long. 20 degrees E.

LONGITUDE AND TIME.

Lines of longitude are also connected with what we know as time, and serve to account for its variations in different localities. Since the earth rotates from west to east on the axis which joins the poles, the lines of longitude come in order directly below the sun; and when one line is in such a position, it is midday at any point of the same meridian. Because the line of longitude from which all others are numbered passes through Greenwich the longitudinal distance of 360 degrees round the globe is divided into 180 degrees east and 180 degrees west of this Prime Meridian. Now, as the earth turns through 360 degrees of longitude in twenty-four hours, if the sun or a fixed star is on the meridian of any place at a given time, it will be on the meridian of another place 15 degrees west of the first in one hour. Hence 15 degrees longitude represent one hour of difference in solar time, and 1 degree is equivalent to four minutes, as can be easily shown: for if 15 degrees equal one hour or sixty minutes, 1 degree equals sixty minutes divided by fifteen which is four minutes. All methods of determining longitude, or the angle between two meridians are based on this ratio. A common method at sea is by comparing Greenwich Mean Time, as recorded on the ship's chronometers, with the local time obtained from observations of the elevation of the sun or some fixed star above the meridian by means of the sextant. Thus by comparing the two times the longitude of any position at sea can be calculated. Another means of working out the same calculation is provided by the Nautical Almanac. This gives the Greenwich time at which the moon is at certain distances from certain stars; mariners note the local time at which the moon is at the same distance from these stars (they are aware of the local time from observation of the sun in the day time) and so the longitude is known.

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PROBLEMS OF LONGITUDE AND TIME.

When it is noon at Greenwich what time will it be at Aleppo 37 degrees E.?

For 1 degree the difference in time equals 4 minutes. For 37 degrees the difference in time equals 4 by 37 minutes equals 148 minutes equals 2 hours 28 minutes. Since Aleppo is east of Greenwich, the time will be 2.28 p.m.

When it is noon in Greenwich it is 5.31 a.m. in Winnipeg. What is its longitude?

The difference in time is 6 hours 29 minutes, i.e., 389 minutes. In four minutes the earth rotates through 1 degree. In 389 minutes the earth rotates through 389 degrees divided by 4 equals 97 degrees 15 minutes. Since the time in Winnipeg is slow of Greenwich, its longitude is 97 degrees 15 minutes W.

STANDARD TIME.

Since most countries stretch through several degrees of areas, so that in practice it would be most inconvenient for every place to keep its own local time. Great Britain stretches through nearly 8 degrees of longitude with the result that the sun time at Great Yarmouth is half an hour fast of sun time or local time at Land's End. For national convenience, therefore, all places in Great Britain keep Greenwich time, which is the agreed standard time of our country.

In continental areas throughout the world similar arrangements have been made regarding standard time. Thus Europe is divided into three time belts—West Europe, Mid-Europe, and East Europe—having for their approximate centres the meridians of 0 degrees, 15 degrees E., and 30 degrees E. respectively. In America those meridians of which the number of degrees is divisible by fifteen have been chosen to give the standard time to all territory roughly bisected by them. For instance the time in New York State, through which the meridian of 75 degrees W. passes, differs from Greenwich time by exactly five hours; time in New Orleans on the meridian of 90 degrees W. differs by six hours; at Denver in Colorado, by seven hours, and so on. The standard time of all places lying approximately east or west of 90 degrees W. is that of New Orleans so that when it is 12 o'clock there the same time is adopted in a belt, roughly between 82½ and 97½ degrees west of Greenwich. By these means small variations of local time are disregarded and only differences of an hour are noted.

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THE INTERNATIONAL DATE LINE.

Suppose that two travellers, one bound east and the other west, leave Greenwich by ship at 12 o'clock on the same day, at which time the sun is directly over the Prime Meridian, consider the variations of time for each of the two. To the eastward voyager going in the same direction as the earth's rotation towards the sun, sunrises will appear at shorter intervals than to an observer at Greenwich. He is in fact gaining time, and when it is Sunday with him it is still only Saturday at Greenwich. Now to the westward bound traveller going against the earth's movement, the intervals between the sun's risings will, on the contrary, be longer; and instead of gaining he will be losing time. So that when the passenger sailing east reaches the meridian of 180 degrees he finds himself twelve hours in advance of Greenwich time, while the westbound traveller is twelve hours behind. The difference between the clocks of the two ships is, therefore, twenty-four hours or a day. To overcome these difficulties the International Date Line has been fixed. This is arranged to coincide in the main with the meridian of 180 degrees, but it is diverted east or west of it at certain points so as to accommodate the conveniences of people living on islands in which it is desirable to keep the same time. Thus, when crossing the International Date Line, while the eastward bound traveller has duplicated a day, and is living through Sunday again, the westward bound voyager has dropped a day, and is passing from Friday midnight to Sunday morning.

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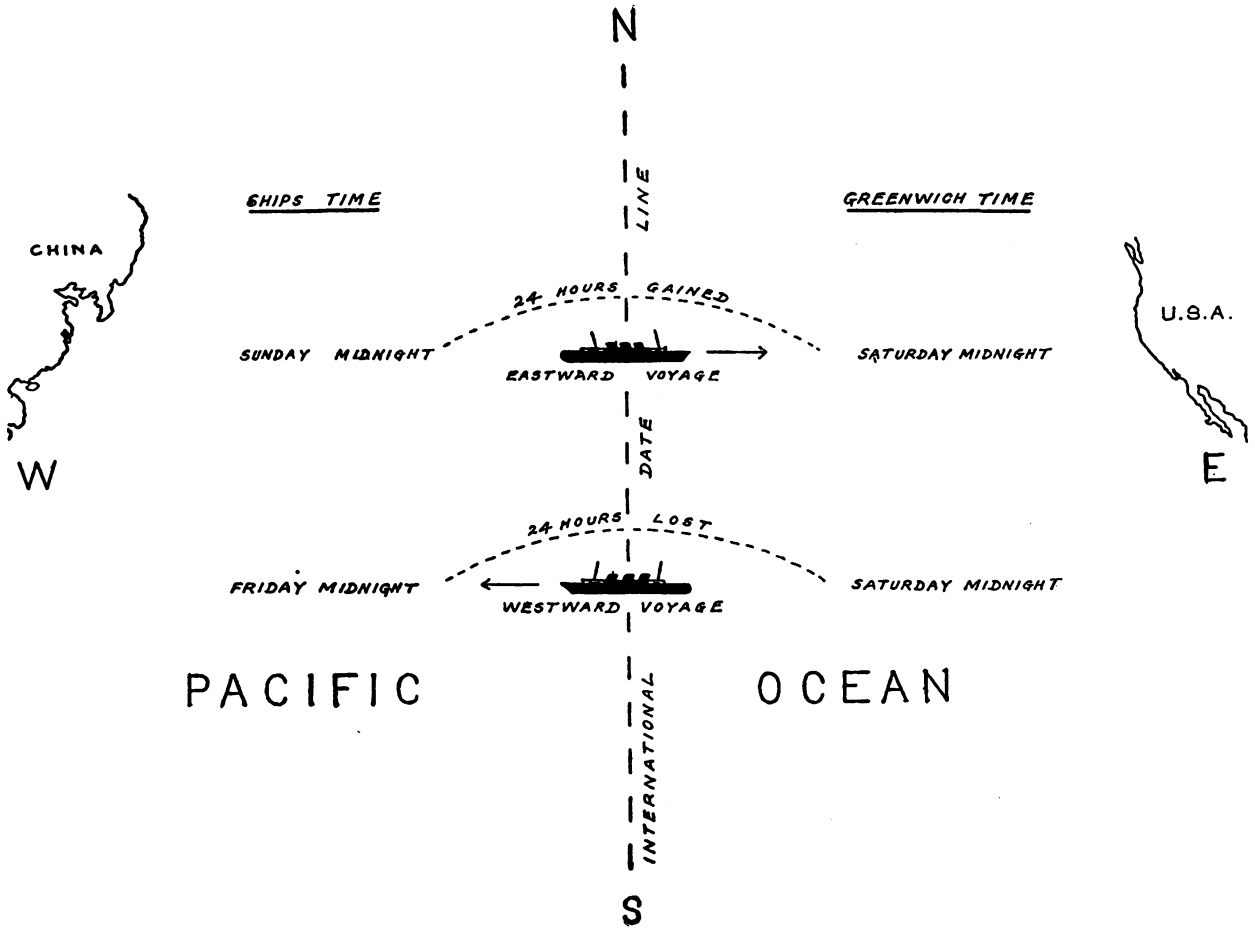

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APPENDIX C.

TABLE OF DISTANCES.

These distances are approximate only. For the return voyage commence at end of Tables and read back.

From	*To*	*Miles*
SOUTHAMPTON	GIBRALTAR	1,148
Southampton Docks	Netley	1
Netley	The Needles	22
The Needles	Ushant	197
Ushant	Cape Ortegal	360
Cape Ortegal	Finisterse	24
Finisterre	The Burlings	209
The Burlings	Cape Roca	39
Cape Roca	St. Vincent	106
Cape St. Vincent	Trafalgar Lt.	153
Trafalgar Lt.	Gibraltar	37
GIBRALTAR	MALTA	957
Gibraltar	Cape de Gata	155
Cape de Gata	Cape Caxine	248
Cape Caxine	Cape Bengut	45
Cape Bengut	Cape Bougaroni	122
Cape Bougaroni	Galita Island	131
Galita Island	Cani Rocks	61
Cani Rocks	Pantellaria Island	95
Pantellaria Island	Valetta, Malta	150
MALTA	PORT SAID	959
Malta	Alexandria	814
Alexandria	Port Said	145
SUEZ	DAEDALUS REEF	353
Suez	Shadwan Island	173
Shadwan Island	Brothers Beacon	82
Brothers Beacon	Daedalus Reef	98
DAEDALUS REEF	PERIM	860
Daedalus Reef	Jebel Tier	657
Jebel Tier	Centre Peak	37
Centre Peak	Abu Ali	69
Abu Ali	Perim	97
DAEDALUS REEF	PORT SUDAN	354
PORT SUDAN	PERIM	567

PERIM	ADEN	105

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From	*To*	*Miles.*
ADEN	BASRA	1,960
Aden	Muskat	1,196
Muskat	Shatt-al-Arab Bar	685
Shatt-al-Arab Bar	Abadan	49
Abadan	Basra	39
ADEN	BOMBAY	1,645
ADEN	KARACHI	1,466
ADEN	SHANGHAI	6,052
Aden	Colombo	2,088
Aden	Cape Guardafui	371
Guardafui	Minikoi Light	1,304
Minikoi	Colombo	413
Colombo	Singapore	1,564
Colombo	Point de Galle	61
Point de Galle	Dondra Head	34
Dondra Head	Pulo Bras	865
Pulo Bras	Diamond Point	149
Diamond Point	Pulo Berhala	165
Pulo Berhala	Cape Rachado	150
Cape Rachado	Singapore	140
Singapore	Hong Kong	1,436
Singapore	Pulo Manki	652
Pulo Manki	Waglan Light	770
Waglan Light	Talhong Point	14
Hong Kong	Shanghai	855
Hong Kong	Turnabout Island	383
Turnabout Island	Heishan Island	250
Heishan Island	Tongling Island	60
Tongling Island	Fairway Buoy	107
Fairway Buoy	Shanghai	55
SHANGHAI	CHIN-WANGTAO	611
Shanghai	Shantung Promontory	394
Shantung Promontory	Chin-wang-tao	217
BASRA	KARACHI	1,009
BOMBAY	COLOMBO	882
Prongs Light	Kundari Island	10
Kundari Island	Vengorla Light	173
Vengorla Light	Quillon Light	458
Quillon Light	Muttum Light	78
Muttum Light	Colombo	163
KARACHI	BOMBAY	505
SOUTHAMPTON	WEST INDIES	4,161
Southampton Docks	Netley	1
Netley	The Needles	22
The Needles	Bermuda	2,977
Bermuda	Jamaica	1,161
The Needles	Jamaica	4,122

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NATIONAL AND TRADE FLAGS OF PRINCIPAL COUNTRIES OF THE WORLD.

GREAT BRITAIN: The Union Jack ordered by James I to be borne at the maintop of all British ships, except ships of war, which bear it upon their jack staff at the end of the bowsprit. The Union Jack is still used as the man-o'-war's jack, and is also flown at the maintruck of the admiral's vessel. It also appears on all ensigns. The ensign is the flag flown upon the ensign staff of any vessel, indicating its nationality and other information. The British White Ensign, a white flag having the cross of St. George and with the upper corner near the staff occupied by the union device, is the exclusive flag of the Royal Navy and the Royal Yacht Squadron, and may be flown by no other vessel. The Red Ensign is a red flag with the union device in the upper quarter near the staff, and is flown by British merchant vessels and ships not belonging to the Navy. The Blue Ensign is a plain blue flag with the union device in the upper quarter next the staff, and is flown by the Royal Naval Reserve and by certain yacht clubs. The Union Flag and the Blue Ensign are also used with various additions to denote various officials or departments.

FRANCE: The French national flag is the tricolour of blue, white, and red in vertical bars adopted during the Revolution, and now used in both the navy and mercantile marine.

GERMANY: The trade flag of Germany, at present used also for national purposes, consists of three horizontal bars of black, red, and gold.

AUSTRIA: The Austrian flag since the Great War is composed simply of three horizontal bars of red, white, and red.

HUNGARY: The Hungarian flag, also since the War, has three horizontal bars, red, white, and green, with the Hungarian arms without supporters in the centre.

RUSSIA: The Russian or Soviet flag is red with a yellow sickle crossing a yellow hammer and a star.

ITALY: The Italian naval flag has three vertical bars of green, white, and red, and the central bar bearing the arms of Savoy, a red blue-bordered shield with white cross, and surmounted by a crown. The mercantile flag is identical, except that it has no crown.

SPAIN: The mercantile flag of the Republic is yellow with two narrow horizontal red bars.

PORTUGAL: The Portuguese flag since 1910 is of dark green (next pole) and bright red in the proportion of five of green to eight of red.

NORWAY: The Norwegian flag for the naval and mercantile service is red with a blue cross bordered with white.

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SWEDEN: The Swedish flag is similar, but has a blue background with a yellow cross.

BELGIUM: The Belgian naval and mercantile flag has three vertical bars, black, yellow and red.

HOLLAND: In the Dutch flag the design is the same but the colours red, white, and blue.

DENMARK: The Danish flag is red with a white cross.

TURKEY: The Turkish naval flag is red with a white crescent and an eight-pointed star near the staff. The mercantile flag is green wth a white crescent upon a red circle in the centre.

GREECE: The Greek national flag has nine horizontal blue and white stripes, while the upper quarter near the staff is blue, with a white cross in the centre of which is a crown. The mercantile flag is identical without crosses.

BALKAN STATES: The Roumanian flag has three vertical bars of blue, yellow, and red. The Bulgarian flag has three horizontal bars of white, green, and red. The Servian flag has three horizontal bars of red, blue, and white.

THE UNITED STATES OF AMERICA: The U.S.A. flag consists of thirteen red and white stripes, representing the original number of states, with the upper inner quarter blue, bearing one star for every state actually in the union, the number of stars being now forty-eight.

MEXICO: The Mexican flag is a tricolour with green, white, and red vertical bars bearing the Mexican arms in the central bar.

BRAZIL: The Brazilian flag is a green ground bearing a yellow rhombus with a blue circle dotted with stars and a motto signifying order and progress.

ARGENTINE: The Argentine flag has three horizontal bars, blue, white, and blue, for the mercantile service, and a sun upon the white bar for the navy.

CHILI: The Chilian flag consists of two horizontal halves, white and red. Near the staff in the upper bar is a five-pointed white star on a blue ground.

JAPAN: The Japanese flag is a red central disc, representing the sun, with red spreading rays on a white ground.

CHINA: The Chinese flag (since 1912) is a five equal-striped one with the following colours: red, yellow, blue, black, and white, representing China proper, Manchuria, Mongolia, Chinese Turkestan, and Tibet.

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HOUSE FLAGS AND FUNNELS OF SOME PRINCIPAL STEAMSHIP LINES.

Black Funnels	*Distinguishing Marks and House Flag.*
Anchor Line	White flag with red anchor.
Henderson Line	Grey masts, red, white, and blue flag with Union Jack in centre.
P. & O. Line	White-yellow-red-blue triangles flag.
Rotterdam-Lloyd	Grey hull, red flag with white cross, "R.L." in centre.
Messageries Maritime	Red, white, and blue flag.
Black Funnels with Decorations.	
Furness Withy (two red bands)	Grey hull, blue flag, white "F" in centre.
Clan Line (two thin red bands)	Red flag, red lion in white diamond.
Navigazione Generale Italia (large white band)	Red flag, lion and cross on white ground.
Red Star Line (white band)	White flag, red star.
Brocklebank (blue & white bands)	Blue and white flag.
American Petroleum Co. (blue and white bands)	White flag, red, blue, and yellow crosses, "A.P.C." in centre.
Buff Funnels.	
Aberdeen White Star	Red and blue flag, white star in centre.
New Zealand Shipping Co.	Red, white, and blue pennant, white flag, red cross, lettered "N.Z.S. Co."
Royal Mail Steam Packet Co.	White flag, red cross, crown in centre
Orient Pacific	White flag, blue cross, crown in centre.
Norddeutcher-Lloyd (German)	White flag, blue key and anchor in centre.
Buff Funnels, Black Tops.	
White Star	Red flag, white star in centre.
Elders and Fyffes	Blue flag, "E.F." in white diamond.
Ellerman (with white band)) City Line) Hall Line)	Blue flag, lettered "J.R.E."
C.P.R. (Canadian Pacific Railway), buff funnels.	Black hulls (Empress class, white hulls), red and chequered flag.
Red Funnels, Black Tops.	
Union-Castle	Grey hull, blue flag, red and white cross and diamond.
Anglo-American Oil	Red and blue flag, eagle in centre.
Cunard	Red flag with yellow lion in centre.
Glen	Blue flag, white circle enclosed "G."

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Blue Funnels, Black Tops.
Alfred Holt & Co. ..... Blue flag, "A.H." in white diamond.

Blue Funnel, Black Top, White Band.
Lamport & Holt ..... Red and white flag, "L. & H."

Salmon Funnel, Black Top.
Bibby Line ..... Red flag, yellow crest in centre.

LARGEST SHIPS.

"QUEEN MARY" (British)	80,000 tons
"NORMANDIE" (French)	75,000 „
"BREMEN" (German)	51,657 „
"REX" (Italian)	51,062 „

TROOP TRANSPORTS.

Name	Date	Length	Breadth	Speed
Somersetshire and Dorsetshire	1918 Diesel Motor-ships*	466 ft. 9,647 tons†	57 ft.	12.5 knots
Lancashire	1917 Steamship (oil fuel)	482 ft. 9,543 tons	57 ft.	15 knots
Nevasa	1913 Steamship (coal fuel)	480 ft. 9,213 tons	58 ft.	15 knots
Neuralia	1913 Steamship (coal fuel)	480 ft. 9,182 tons	58 ft.	15 knots
Dilwara	1935 Diesel Motor-ship	496 ft. 11,049 tons	63 ft.	17 knots
Dunera	1937 Diesel Motor-ship	496 ft. 11,049 tons	63 ft.	17 knots

* Driven by internal combustion with heavy oil. The Diesel oil mixed with air automatically explodes under pressure in the piston, without the use of an electric spark as in ordinary petrol engines.

† A "ton" is equal to 100 cubic feet of space for calculating the measurement of a ship.

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RIGS OF SAILING VESSELS.

A full-rigged ship has three or more masts, all with square sails.

A Barque has three masts, two square rig, the third, or mizzen, having a fore-and-aft rig.

A Barquentine has three masts, the foremast square rigged, the other two fore-and-aft rigged.

A Brig has two masts, both square rigged.

A Brigantine has two masts, square rigged except for a fore-and-aft mainsail.

A Schooner has two or more masts with fore-and-aft sails.

A Cutter is a small one-masted vessel with fore-and-aft sails, usually a pleasure or racing yacht. It carries mainsail, topsail, foresail, and jib.

A Yawl is similar to a cutter, but it has a small mizzenmast and sail aft above the counter.

A Ketch is rigged in the same way, only the mizzenmast is stepped slightly farther forward. The ketch is ordinarily employed for trading purposes.

A Sloop is a generic name for a small one-masted vessel carrying any sort of fore and aft rig.

Native vessels of this class are the Italian and Greek "Felucca," the Egyptian "Dahabiyeh," the Arabian and Indian "Dhow," and the Chinese "Junk." The Cingalese "Catamaran" has an outrigger.

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APPENDIX D.

GLOSSARY OF NAUTICAL AND GEOGRAPHICAL TERMS.

Abeam:—At either side of vessel.
Aft:—At or near the stern.
Alleyway:—Passage inside ship.
Beam:—Greatest width of the vessel; horizontal cross timbers of a ship.
Bilge:—The flat part of a ship's bottom, inside or out.
Bitts:—Short iron posts fitted to deck for securing hawsers.
Bollard.—Post on ship or quay for securing ropes.
Bow:—The forward part of a vessel.
Bulkhead:—A partition or wall of either wood or iron.
Cable:—The anchor chain.
"Cable's Length":—100 fathoms or 600 feet—one-tenth of a sea mile.
Capstan:—Winch for winding up the cable.
Coaming:—Vertical projection of a hatchway above the level of the deck.
Companion:—A stairway.
Crow's Nest:—Look-out platform on the ship's foremast.
Davits:—Cranes for hoisting or lowering ships' boats.
Deadlight:—Metal cover for portholes in bad weather.
Dead Reckoning:—Method of acquiring approximate position of the vessel from course steered and distance run.
Dog Watch:—Sub-division of 4 to 8 p.m. watches into two hours so as to change watches and save men on port and starboard watches from working the same hours day after day.
Draught:—The depth to which a ship sinks below waterline.
Equinox:—Equal length of day and night, "spring" or "vernal" equinox being towards the end of March and the "autumnal" toward the end of September.
Fathom:—Six feet.
Fo'c'sle:—"Forecastle"—Crew's quarters in the Bow.

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Fore and Aft:—Lengthwise with the ship.
Forrard:—Toward the Bow.
Galley:—Kitchen.
Gloryhole:—Stewards' quarters.
Hatchway:—Opening to lower deck.
Hawse Pipes:—Openings in Bow for anchor chains.
Hawser:—Mooring ropes of hemp or wire.
Horse-Power:—The energy required to raise 33,000 pounds one foot per minute.
Hurricane Deck:—A deck with no overhead protection.
Lee or Leeward:—The side of a vessel away from the wind.
Latitude and Longitude:—The distances North and South of the Equator, and East and West of Greenwich.
Log:—(a) An instrument towed by a vessel at the end of a long line for recording distance travelled; or (b) Official daily record of a voyage.
Mid-ship:—The middle of the ship or half-way between stern and bow; also centre from either side.
Overhang:—Portion of hull over and unsupported by water.
Pitching:—Sea-saw motion caused by a head or following sea.
Poop.—Raised deck at stern of vessel.
Port:—The left-hand side of the vessel.
Rolling:—Movement of vessel from side to side caused by a beam sea.
Scending:—Combined rolling and pitching movement.
Scuppers:—Drains or waterways at the edge of a ship.
Sounding:—Measuring the depth of water.
Spring Tide:—A high tide caused by sun and moon being on meridian together. Low tides are called Neap Tides.
Starboard:—The right side of a ship.
Stem:—The bow of a vessel.
Stern:—Rear end of a vessel.
Taffrail:—Rail round a vessel's stern.
Tender:—Small steamer or tug for taking on or putting off passengers.
Thwartship:—Crosswise to the ship.
Tropics:—The furthest points North Lat. 23¼ N. and South Lat. 23½ S. at which the sun is vertically overhead.
Weather Side or Windward:—Side of vessel nearest wind.
Winch:—Small engines used for hoisting.
Yards:—Spars set crosswise to mast.

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APPENDIX E.

VARIA.

The Velocity of Wind varies from two miles to eighty per hour:

Seven miles is a Light Wind; and anything from eleven to twenty is described as a light to moderate breeze. Twenty-five to thirty miles an hour is a fresh to strong breeze. From thirty-five miles to sixty miles an hour is a gale—moderate, fresh, or strong. Beyond sixty it is called a whole gale, at seventy a storm, and at eighty a hurricane.

The Height of Waves from crest to trough varies in proportion from under five feet in a light or moderate breeze to thirty-five feet in a whole gale or hurricane.

Distances Visible at Sea.

At	an	elevation	of	5	ft.	— 2	miles
,,	,,	,,	,,	20	,,	— 5	,,
,,	,,	,,	,,	35	,,	— 7	,,
,,	,,	,,	,,	50	,,	— 8	,,
,,	,,	,,	,,	75	,,	— 9	,,
,,	,,	,,	,,	100	,,	—11	,,

MEASURE OF SPEED AND DISTANCES.

A "knot" is the unit by which the speed of a ship is reckoned, e.g., twenty knots equal twenty nautical miles an hour. The term is derived from the knots in the log-line corresponding to nautical or geographical miles.

A Mile (from the Latin "mille" a thousand paces), is in England a linear measure of 1,760 yards. The nautical or geographical mile is supposed to be equal to one minute of latitude, but since this varies a little and no mean has been agreed upon, it differs in different countries. In British usage the nautical mile is 6,080 feet, whereas in the U.S.A. it is 6,082 ft. 8 inches. Ten cables make one knot for purposes of charting, etc., although the usual length of a cable is supposed to be 600 ft.

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TIME BY SHIPS' BELLS.

On board ships the twenty-four hours of the day is divided into six watches of four hours each, the 4 - 8 watch in the afternoon being divided into two dog watches which are from 4 to 6 and from 6 to 8. The time at sea is announced every half-hour by the ship's bells on the bridge, and the signal is repeated in the crow's nest. The time and number of the bells are:—

	a.m.	to	p.m.
1 Bell is rung at	12.30	4.30	8.30
2 Bells „ „ „	1.00	5.00	9.00

and so on until 8 Bells is rung at 4, 8, and 12, when one Bell is again rung.

Also 1 Bell is rung at 11.45, 3.45, 5.45 and 7.45 as a cautionary signal for the changing of the watch.

Two exceptions occur in the morning when 7 Bells is rung at 7.20 and 11.20.

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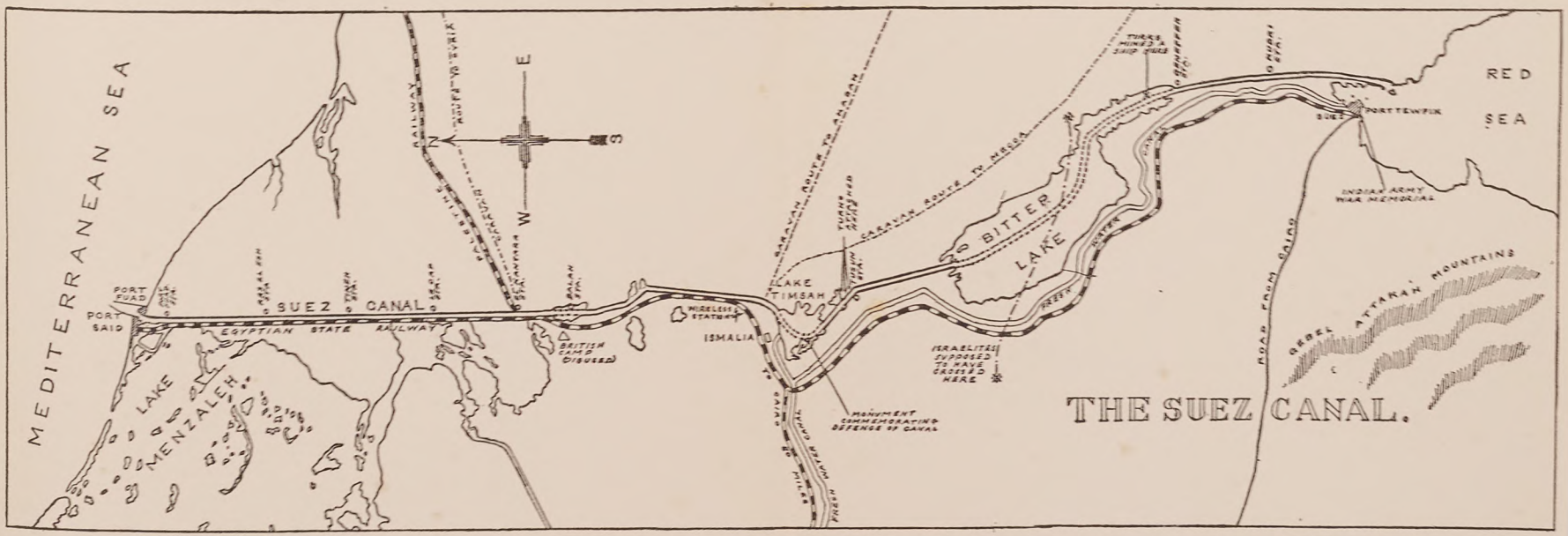

A. O. MORRIS, CAPT. Late R.G.A. (S.R.).

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TIME BY SHIPS' BELLS.

On board ships the twenty-four hours of the day is divided into six watches of four hours each, the 4 - 8 watch in the afternoon being divided into two dog watches which

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LOG OF THE JOURNEY.

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